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ORIGINAL ARTICLES.

ALBUMINURIA NOT OF RENAL ORIGIN.

By J. Hubley Schall, M. D., New York.

HAVING taken advantage of the opportunities afforded me by my position as a hospital interne, for obtaining experience as to the conditions under which intermittent albuminuria occurs, and after investigating this interesting subject, I have satisfied myself of the correctness of the teachings of the late Dr. Formad in regard to the presence of albumin in the urine not indicating kidney disease unless accompanied by microscopical evidences of renal degeneration.

In hospitals where it is the routine practice to carefully examine the urine of each patient, one interested in urinary analysis, and especially in these cases of intermittent albuminuria, has an exceptional opportunity of studying daily the urine.

The most satisfactory method of investigating these conditions is to place the patients in a ward where the symptoms and diet may be noted from day to day, and the urine properly collected for the twenty-four hours.

Of 510 urinary analyses I have recorded thirty-four specimens which contained albumin and with no microscopical evidences of kidney disease. The conditions in which the albumin was found are as follows: Neurasthenia, six; epilepsy, five; dilatation of the stomach, two; morphine habit, four; obesity, eight; malassimilation in children, four; after laparatomy, five.

Bouchard has seen albumin twenty-six times in 100 cases of obesity, fifty-eight times in 100 cases of gout and thirty-three times in 100 cases of diabetes.

Strange to say, I have been surprised with the frequency with which I have discovered albumin in the urine of physicians. I have at the present time four cases among medical men who suffer from a peculiar form of long-continued excretion of albumin by the kidneys. I have noticed a striking feature in this form of albuminuria, and that is the marked fluctuation in the amount of albumin at different periods of the day. Specimens examined from each micturition show it to be abundant at one time and entirely absent at another. In many instances it decreased toward evening, and at night entirely disappeared.

This intermittent albuminuria was accompanied in three of these cases by a general state of debility and a functional disturbance of the nervous system, of which neurasthenia holds the first place. It is due, as far as I can discover, to mental and physical excesses.

The quantity of urine voided in the twenty-four hours was normal. The urea, in proportion to the amount of urine and body weight, was normal; uric acid and chlorides were present in healthy quantities. Phosphaturia, however, was in the four cases found to be marked, with a slight excess in the sulphates.

The influence of diet seemed to have no appreciable effect on the quantity of albumin excreted, excepting milk, which increased it. The free use of kumyss had a tendency to improve the general system, and in two instances decreased the albumin.

Hawkin, of London, reports a case of a physician, who, for forty-three years had suffered from albuminuria without other symptoms of Bright's disease. Thirty years before he had consulted Bright himself, who had predicted his death within a short time. Prof. Goodno, of Philadelphia, informs me that he has at the present time a case of long standing albuminuria that has been under his observation for a period of ten years.

Drs. Guernsey and Wetmore, of this city, have knowledge of analogous cases.

It is known that the liver may elaborate certain substances of an albuminoid nature, so that albumin will result; again, we may have a cutaneous albuminuria which is of a reflex order and is produced by excitation of the cutaneous nerves, as rubbing a person with turpentine.

Albuminuria, so common in morphine-eaters, is probably due to a venous stasis from paralysis of the veins.

An intermittent albuminuria sometimes occurs in malarial poisoning. I have distinct recollection of an instance where at one time the coagulum amounted to one-third the volume of urine in the test tube; the following examinations showed not a trace.

A great majority of these cases of intermittent albuminuria possess a distinct neurotic family history.

A temporary albuminuria is not infrequent as a result of over-study or powerful emotions in neurasthenic individuals.

It is claimed by some gynæcologists that prolapsus uteri, causing pressure on the renal circulation, is a causation of an albuminuria. This fact I have verified by post-mortem.

Whenever we find traces of albumin in the urine it should not be taken for granted as a positive proof of the existence of nephritis, until we are thoroughly satisfied by repeated diligent microscopical research that evidences of renal disturbance are absent. A single slide should not satisfy the examiner, but two or three should be carefully studied throughout their entire field. Many times casts are declared absent simply because they are not diligently sought. It is a well known fact that hyaline casts are not easily

recognized. The use of the centrifuge very speedily isolates them. To make them more conspicuous they can be readily stained, and for this purpose aniline colors, or an aqueous solution of iodine, may be employed. If after repeated examinations we discover nothing of importance, excepting the presence of the oxalates and phosphates, the probabilities that the albuminuria is of non-renal origin are increased.

In 50 per cent. of the specimens examined the urea in proportion to the amount of urine and body weight was normal; uric acid and chlorides were present in normal quantities. Phosphaturia with an increase in the sulphates was marked. A sphygmographic tracing of the pulse showed the tension to be normal or sub-normal.

The microscope has completely revolutionized many old conceptions in regard to albuminuria, and it gives superior ideas of the condition of the important kidney structures than any of the chemical tests.

In many of the cases I have recorded, where the existing causation of the albuminuria was doubtful, I subjected specimens to five able pathologists, who, after conscientious investigation, reported the absence of "cylinders" or any other evidence of renal degeneration.

The treatment of these cases should not be directed to the albuminuria, but to the pathogenic conditions that bring it about.

POST-OPERATIVE TRANSFUSION OF SEVEN LITRES OF NORMAL SALT SOLUTION IN A CASE OF SECONDARY HEMORRHAGE: RECOVERY.

By Homer I. Ostrom, M. D., New York.
Attending Surgeon to the Metropolitan Hospital.

THE following case of secondary hemorrhage illlustrates, *first*, the immense value of the transfusion of normal salt solution in restoring life when the patient is apparently moribund from the loss of blood; and, *second*, the advantages of performing all severe and major operations in institutions where every appliance for post-operative treatment is at hand, and can, without delay, be brought into use.

Mrs. B., aged fifty-three years, entered my Private Hospital January 28, 1896. She was married at twenty-five, and when thirty years old gave birth to her first and only child, the labor being prolonged and difficult, and the delivery instrumental. Since that time there has been a continually increasing inability to retain her urine, and during the past year there has been complete paralysis of the vesico-sphincter muscle.

Menstruation ceased at forty-three, without marked disturbance. Four years ago, the leucorrhœa, which had always been present in a greater or less degree, became tinged with blood. At this time an examination was made by her attending physician, who found the cervix lacerated, hardened and eroded. An operation was advised, but refused.

The sanguineous flow increased, soon becoming offensive. Local pain developed, digestion and assimilation began to suffer, and when I saw Mrs. B. for the first time, five days before she entered my Sanitarium, she was unable to walk across her room, and required morphine in considerable doses to relieve her suffering. The most acute pain had its origin in the region of the uterus, radiating along the course of the sciatic and crural nerves.

Examination showed the "crater os" of epithelioma, the finger entering the uterine cavity beyond the internal os. Considerable quantities of tissue were removed with the examining finger, which, being submitted to examination, confirmed the diagnosis of epithelioma.

I could discover no invasion of extra uterine tissue, neither could I detect any enlargement of the pelvic glands; the uterus was large, but moved freely in every direction. I therefore advised an immediate radical operation, and for that purpose Mrs. B. entered my Private Hospital, January 28, 1896.

After my usual very careful aseptic preparations, I made a vaginal hysterectomy, January 30, 1896.

The anæsthetic, ether, was well borne, but from the profuse oozing of blood and the ease with which the ligatures cut through the arteries when tied, it soon became apparent that the patient was not only a subject of hæmophilia, but that there was a serious degeneration of the arterial tubes.

The cervix was so far degenerated that the uterus could not be drawn down by means of my powerful volsella, and I was obliged to place a strong silk ligature high up in the uterus to anchor the organ.

The rectum and bladder were separated from the uterus with comparative ease, but the broad ligaments were so unusually tense, that they presented powerful obstacles to the dislocation of the organs to be removed. Especially was this the case on the left side, making it necessary first to cut out the uterus, and then to tie the ovarian and uterine arteries at the time the ovaries were removed.

Considerable difficulty was encountered in securing the ovarian arteries. Not only were they high in the pelvis, because of the tension of the broad ligaments, and therefore out of reach, but the arterial coats were so much degenerated that they could not hold the ligatures. There was also continued and profuse general oozing. This, however, and the active hemorrhage from the larger vessels was finally arrested, and the vagina well packed with iodoform gauze.

The operation was completed in thirty minutes, and the patient returned from the operating room in a good condition.

Three hours after the operation the pulse suddenly became very feeble and rapid, 140; respiration, 20; and temperature 96. Coincidently, the vaginal discharge assumed the character of an active hemorrhage.

I was summoned by telephone, but before my arrival my house surgeon had by additional vaginal packing and the usual means of arresting hemorrhage, apparently controlled the loss of

blood, but an attack of vomiting an hour later induced a return of the hemorrhage, and in a few minutes the patient was pulseless—even the carotids could not be felt—unconscious, and the blood pouring from the vagina as in a post-partum hemorrhage.

I at once ordered the normal salt solution made ready for transfusion, and owing to the efficiency of my supervising nurse but a few minutes elapsed before I was enabled to begin the operation.

Two litres at a temperature of 110° Fahr. were injected into the right median-basilic vein. This revived the patient; her pulse became steady, and consciousness returned. But soon another attack of vomiting occurred, followed by another hemorrhage, which so far reduced the patient that no signs of life remained. Respiration and the heart's action apparently ceased. The body was bathed in a cold, clammy sweat, and all evidences of animation were held in abeyance.

I reopened the vein and injected five litres of the salt solution at the same temperature as before.

The heart responded to the filling of its cavities. Respiration and consciousness returned, and beyond the excessive prostration which would naturally follow so great a loss of blood, the patient made an uninterrupted recovery, leaving for her home March 17th, perfectly well.

During convalescence, and until all evidence of anæmia had disappeared, *Stearns' Haemoferrum* was given with, I am confident, the effect of assisting in the restoration of the blood to its normal constituents, and of nourishing the greatly depleted system.

I am pleased to report that now, after a lapse of ten months, there is no evidence of a return of the neoplasm for which the operation was performed. This adds support to the practice I have frequently advocated of making a vaginal hysterectomy in the early stages of malignant diseases of the uterus. Later, when the peri-uterine tissue shows the least involvement the only justification I find for the operation is the possible prolongation of life, frequently, however, at the expense of increased suffering.

THREE CASES OF NEPHRORAPHY FOR MOVABLE KIDNEY ON RIGHT SIDE.*

By William H. Wathen, M. D., Louisville, Ky.,

Professor of Obstetrics, Abdominal Surgery and Gynæcology in the Kentucky School of Medicine, Etc.

TWO weeks ago a lady from an interior town of the State was referred to me for a tumor in her right side. She was forty years of age. Emaciation had been progressive for the last year, and she had constantly suffered from the effect of the tumor, particularly in her digestive functions and in her nutrition. Upon examination it was decided that there was a movable kidney which was enlarged. It could be felt just under the edge of the ribs behind the liver. The next day I operated by nephroraphy, fastening the kidney in the wound of the loin. When the kidney was caught with bullet forceps, the capsule tore readily, causing hemorrhage, but the operation was completed without trouble, the kidney being fixed with kangaroo tendon, and the incision closed with silk worm gut. Within three days the wound had suppurated, and I removed two of the sutures and made an opening to the bottom of the incision. There was some elevation of temperature and acceleration of pulse, and a considerable discharge of pus. The pulse and temperature finally became normal, but there is still a little pus discharging from the opening, and I am inclined to believe that the kidney is tuberculous; this evening Dr. Koehler took some of the pus for a bacteriological examination, which will be reported upon later. If he finds the bacillus of tuberculosis the diagnosis will be conclusive, but even if he does not the trouble may also be tuberculous, and in that event the wound will not heal and suppuration will continue; otherwise the wound will heal, and the kidney will be more firmly fixed because of the suppuration.

Case II.—Three days ago a lady consulted me for a movable kidney. She was twenty-eight years old, the mother of three children, and had been an invalid, most of the time confined to her bed, for a year. Her trouble began six months after the birth of her last child. She had lost flesh, and was decidedly anæmic, and suffered from all the local and reflex symptoms characteristic of movable kidney. The kidney was enlarged, and with the woman in the erect posture it could be readily found and would slip between the examiner's fingers. Yesterday, when she was put upon the operating table on the left side it was with great difficulty that the kidney could be found. After turning her in the dorsal position I succeeded in pressing the kidney down from under the ribs, and proceeded to make an oblique incision. The kidney was readily pulled into the wound, the capsule exposed, and with three large catgut sutures was anchored into the wound; a small drain was placed at the bottom of the incision, and the wound otherwise closed.

Case III.—Another patient, a young lady, consulted me for a movable kidney, practically identical with the one operated upon yesterday. I will operate upon her to-morrow. When in the horizontal position the kidney can hardly be detected, but when she assumes the erect or semi-erect posture, especially bending forward, it can be brought into position where it can be easily detected. She has suffered for a year with local pain and reflex troubles from the movable kidney, has lost much in flesh, is very nervous, and is determined to have an operation performed.

I do not believe in operating upon movable kidneys where we can by general treatment improve the nutrition of the patient and bring about a restoration of the fat by diet and medicines, or where we can arrest the local or reflex pains, and keep the kidney in place by the adjustment of a proper support; but where we find such treatment

* Reported to the Louisville Clinical Society, and stenographically for this journal by C. C. Mapes.

has failed to do good, and emaciation is continuing, local pain increasing as well as the reflex trouble, I believe the best thing is to perform an operation fixing the kidney in the loin. Just what is the best method I do not know, because it is seldom that two authorities will agree exactly upon this point. It is also difficult to determine what is the best suture material for this purpose; if we use silk-worm gut it is certainly good, provided we have no immediate or subsequent suppuration; but if we do then it may cause prolonged suppuration, that will worry the patient and the sinus will never heal until the ligatures have been removed. I do not believe as a rule we are justified, in the operation of nephroraphy, in burying sutures that will not be absorbed. I think it best to use a good-sized well-sterilized and chromatized catgut or kangaroo tendon for fixing the kidney, for the reason that if suppuration does occur these sutures will disintegrate and be discharged, and will not leave a persistent sinus. And if there is some inflammation following the use of these sutures, we will find that the firmness and persistence of the fixation will be better than if the wound was perfectly aseptic during its entire reparative process. However, I would prefer to have no suppuration, and I believe it is better to drain with silk-worm gut, which may be removed within from three to five days.

DISCUSSION.

Dr. I. N. Bloom: The first case of movable kidney that I diagnosed occurred in a young lady twenty years old. Dr. Turner Anderson saw the case with me and concurred in the diagnosis. This case was absolutely cured by rest in bed, aided by the application of a properly adjusted pad. The girl, when she came under my observation, weighed eighty-five pounds, her normal weight being 110 pounds. After six weeks' treatment she weighed 125 pounds.

Two weeks ago a young married woman consulted me with the following history: She had been married three years. Four years ago she had peculiar pains, as she called them, which came on whenever she sat up or walked about. They were most frequently when she sat down to read, and were quite severe in character. There was a localized spot of tenderness in the left side, representing a space scarcely to be covered by the whole hand just below the ribs, extending half way over toward the median line. She complained of some pain also when lying in bed, especially when she changed her position, less when lying on the left than on the right side. When lying on her back she was more comfortable, but any change of position caused pain.

She was supposed to be suffering from some form of urinary trouble. An examination showed her urinary organs to be in a normal condition. As before stated, she had been married three years and had a baby two years old. I put her upon the examining table and without any difficulty could make out to the left of the median line just below the border of the ribs, an exceedingly movable tumor. The abdominal walls were very lax. The young woman weighs about 115 pounds and is perhaps five feet in height. Palpation showed plainly that the condition was one of movable kidney, and I so diagnosed the case. I sent her to Dr. Anderson, who discovered the movable kidney at once and so reported.

The symptoms in this case were less severe than we usually find. There was entire absence of nausea, which in the other case I have mentioned was very marked. In fourteen days I examined her eight times, and last Saturday went to A. C. Tafel, of this city, and ordered a mechanical appliance, which I shall presently describe, and advised the woman to go to bed Saturday, with the expectation of remaining for some weeks, which she did. On Sunday morning I went to take her measure around the abdomen for the bandage. My measurement was twenty and one-half inches. The appliance I had made consists of a convex cup four inches long and three inches wide, the convexity being between one-fourth and one-half inch. As I could always feel the tumor in nearly the same place, I placed this cup-shaped device, made of hard rubber, immediately over the enlargement, with its free side attached to a bandage to prevent its getting out of place by movement of the patient. Over this I expected to apply another bandage, five inches in width, to go entirely around the body and fasten in the back. This morning, thinking the appliance would be ready, I went over to see her, and she was still in bed. I made a very thorough examination, but could not discover a vestige of the tumor which was so plainly apparent on Sunday.

As to the digestive disturbances mentioned by Dr. Wathen and also by Dr. Bloom: These manifestations are explained by rotation of the kidney itself, or by the pressure-effects of a displaced kidney upon the intestines, or upon fixed duodenum, this pressure upon the duodenum preventing the free flow of the gastric contents and producing dilatation of the stomach. A movable kidney may also press upon the pancreas and thus digestive disturbances may be set up.

Results of operations as shown by those men who have operated a great many times, for instance the statistics quoted by Dr. Delvoie, who, I believe, collected 215 cases, show that in those cases operated upon there were 135 cures; of these same cases there were only five deaths and only twenty-five relapses. Edebohls, who has written a great deal upon this subject, and who has done a great many of these operations, reported about the first of the year 1895 a series of fifty-nine nephroraphies with relapses in only two cases and with quite a large percentage of permanent cures. In most of his cases, as we frequently find, the trouble occurred on the right side. In nine of his cases the trouble occurred on both sides simultaneously, but in the vast majority of them it occurred upon the right side only. Movable kidney is found most frequently in married women who have borne children. Movable kidney is produced in many instances by pregnancy; and its occurrence most frequently upon the right side may be explained by the

position which the pregnant uterus occupies within the abdominal cavity, it lying more toward the right than to the left side. The causation in other cases has been traced to direct violence, constituting then the condition called displaced kidney. I believe the cause of movable kidney in a great many cases is a disappearance of the perineal fat.

We find it is very difficult to sterilize kangaroo tendon. I have examined, bacteriologically, kangaroo tendon from Marcy, of Boston, finding quite a number of organisms present. In the case reported I am inclined to think that the suppuration is due not to tuberculosis, but to a septic condition of the kangaroo tendon.

Dr. August Schachner: The results of the operation of anchoring the kidney in the loin are not quite so satisfactory as some of the speakers would have us believe, and this is best proven by the number of operations that have been devised, and also by the different suture materials that have been advocated for anchoring the kidney; in fact, even to-day I do not think there is a thoroughly satisfactory operation known. The operation which Dr. Wathen has done is the very best, and the one that is practiced and recognized as being the best. Even that is quite unsatisfactory. As far as suture material for anchoring the kidney is concerned, I think everything has been used; silver wire, silkworm gut, silk, catgut, in fact every known suture material has been employed. The most desirable, I think, is kangaroo tendon. The kidney structure, as has been proven by several French surgeons, will absorb catgut very rapidly, so that unless very thick strands are used, and even where this precaution is taken, the attachment will sometimes not be as perfect as we desire. In anchoring the kidney it is necessary to use a very large suture that will hold the kidney in position until firm adhesion takes place. For this purpose, I believe, the best thing is to take several strands of fine catgut and twist them, making a suture that looks something like braided silk. Of course, if the catgut is chromatized, it will last longer, which is a point in its favor.

Dr. Louis Frank: The kidney ought to be anchored certainly a month, and I am satisfied catgut will not last that long in the kidney structure. That portion which passes through the abdominal wall might last a month, but the part that slips through the kidney would be absorbed in less time. Of the absorbable materials I think kangaroo tendon would be preferable to any other; of course we must always remember that kangaroo tendon must be rendered absolutely aseptic before it is used. I do not think it is a good plan to suture the kidney, going through the parenchyma, if the suture is of an non-absorbable nature, which is recognized as being necessary to get raw surface against raw surface so as to obtain agglutination. It is only necessary to strip the capsule from the kidney over that portion where it will come in contact with the raw surface of the abdominal wall and perfect union will take place there. Suture materials have always given us a great deal of trouble, and the matter is by no means settled as to which is to be preferred in certain cases.

Another step that has been advised in operations for movable kidney, is to fasten the kidney to the wound and then not try to get primary union, try to get granulation, on the same principle that McBurney has based his hernia cure, getting a large scar that is going to grasp the kidney and hold it. The same objection that obtains in the hernia operation will hold good here. Scar structure is not reliable tissue to deal with, and for that reason it would be unsafe.

SURGICAL KIDNEY*

By James B. Bullitt, M. D., Louisville, Ky.

THE following case is known to many of the gentlemen present, and the specimen which I show you is exhibited chiefly for that reason. The specimen does not show anything practically, except that the kidney was entirely disorganized. It is from a patient who has suffered many operations at many hands, and some of those present may be more familiar with the case than I am, as it passed through their hands.

The patient, E. K., aged thirty-five, entered the city hospital January 16, 1894, and was operated upon March 22d, by suprapubic cystotomy, for relief of cystitis, following which he was operated upon for the cure of ventral hernia and urinary fistula respectively. Then on August 9th a lumbar nephrotomy was performed, later an operation for ventral hernia, and another operation for urinary fistula, January 25, 1895. Again on April 16, 1895, an incision was made in the lumbar region, presumably for lumbar nephrectomy.

When I went on duty at the hospital in July, 1895, I found the man still in the hospital, with a typical surgical kidney of the right side. It was very readily demonstrable that the kidney was filled with pus. The bladder was washed out perfectly clean, until the water came away clear, then catching the kidney between the two hands, which could be done very readily, it was squeezed; the bladder being again washed immediately afterward, it was found that a quantity of pus had been discharged into the bladder in the meantime.

On July 23, 1895, with the assistance of Drs. Vance and Dugan an abdominal incision was made in the right semi-lunaris, and the kidney was excised. It was found to be a typical surgical kidney, the normal structure being entirely destroyed, the kidney being simply a collection of small abscesses. Since that time it has been believed by everybody who has seen the case that the man would in all probability die, but he has enormous vitality, and despite the number of surgical operations through which he has passed, he still lives. He still has chronic cystitis, for which I think nothing has been done since a year ago,

* Read before the Louisville Surgical Society, and reported for this journal by C. C. Mapes

when it was questionable as to whether or not the other kidney was involved.

You will observe that the kidney is chiefly a shell with a pedicle, and upon incising presents no normal kidney structure, being, as I have indicated, simply a collection of abscesses.

REMARKS.

Dr. Jas. S. Chenoweth: Two and one-half years ago C. D., a young man twenty-three years of age, was taken sick while in London, Eng., with symptoms of renal colic, followed by violent cystitis, etc. He became very much run down in general health and returned home, where he was under the care of Drs. Ouchterlony and Vance for seven months, when I saw the case with them. He was then quite ill, temperature 103° Fahr., and suffering great pain from the cystitis. He had a stricture of the deep urethra which was largely spasmodic; whether there was an organic deposit originally or not I do not know. The bladder could be entered with a No. 17 American sound without trouble, but a soft instrument could not be introduced. After washing out the bladder and making a thorough examination, I became satisfied that there was trouble higher up, and could map out a distinct mass in the region of the left kidney. I took it to be an abscess of the kidney. He was taken to the infirmary with a temperature of 104° Fahr., pulse 130 to the minute.

I did a lumbar nephrotomy by a transverse incision and found the kidney considerably enlarged and distended with pus, so much so that when the convex border of the kidney was incised the pus spurted out a foot, owing to the great tension. He had a rather protracted convalescence and considerable fever, although drainage from the nephrotomy wound seemed to be perfect. I kept the wound open for seven or eight months, putting in a large red rubber tube for drainage. In spite of that he had several rises of temperature, due to the development of some little foci in the kidney, which did not drain into the pelvis. He gained twenty or twenty-five pounds during the year, with the fistula still discharging water, but little or no pus. His bladder symptoms became somewhat improved, but I was never able to do any manipulation through the urethra without giving him a chill, which would be followed by fever; micturition still difficult and painful. I tried every conceivable procedure without benefit, and finally resorted to external urethrotomy, putting in a drainage tube, which he wore for twenty-four hours, when his temperature went up to 106° Fahr. I immediately removed the drainage tube, and administered a little morphine and pilocarpine, which was followed by a reduction in temperature. The urethrotomy wound healed promptly and with marked relief of bladder symptoms.

Six months after this operation the wound in the back was still discharging clear urine having little or no odor. I collected at one time a sample and found the specific gravity 1,001. He passed daily from the bladder forty-eight ounces of urine, the specific gravity of which was 1,020—normal. About twenty-four ounces of this clear water discharged from the nephrotomy wound in the twenty-four hours.

I then attempted to determine if any urine passed through the ureter from the affected kidney to the bladder by putting a pad over the nephrotomy wound and completely closing it. At the end of about two hours the symptoms became so distressing that I had to remove the pad. It was evident that no urine passed through the left ureter.

The patient and his family became very anxious to have something further done to relieve him of the annoyance of constant discharge. Being satisfied that the other kidney was sound and doing its work all right, a lumbar nephrectomy was suggested and done in January, assisted by Doctors Vance and Cartledge. In making my incision I followed the site of the former operation, taking out the cicatrix and following it up; encountered a great many adhesions; the kidney could not be brought up into the wound, so with curved forceps I grasped the pedicle of the kidney and cut it from its bed with curved scissors. With the forceps still in position I applied four ligatures to the pedicle, using large silk and removed the forceps, then packed a large roll of iodoform gauze down over the ligature; the ends of the ligature were left long so as to hang out of the external wound. The patient bore the operation extremely well, and as he expressed himself as being very anxious to get out of bed as soon as possible, at the end of two weeks, there having been little pain and no difficulty with the other kidney, I again gave the patient chloroform, carried my finger down through the drainage opening, which had been left large enough for the purpose, located the ligatures and removed them without difficulty and without hemorrhage.

I only saw the patient once after that, as I went South shortly afterward, and when I came back a month later I met him on the street; he was apparently in almost a perfect state of health, having gained fifteen or twenty pounds in flesh. The other kidney has evidently done its work perfectly well, and his recovery has been easy and perfect.

I present the kidney which was removed for your inspection; you will see that it is completely riddled by suppurative processes. The patient at last accounts was passing forty-eight ounces of urine, and was superintending the building of a railroad bridge. The chief points of interest in this case are the unilateral character of the disease and the method of disposing of the ligatures, which would probably have taken months to come away.

Dr. A. M. Vance: I remember to have performed a lumbar nephrotomy upon the patient referred to by Dr. Bullitt, evacuating fully three ounces of pus. The wound was packed with gauze, which was removed at the end of twenty-four hours; I then found it was impossible to repack with gauze, so it was left out. In three weeks the wound had perfectly healed. It now seems evident that I only evacuated one of a number of

abscesses of the kidney. I saw no more of the patient, my service at the city hospital expiring shortly afterward, until I assisted Dr. Bullitt in removing the kidney as he has stated.

Dr. W. O. Roberts: I would like to ask the gentlemen whether or not they have ever had a case of nephrotomy that got well; that is if they ever had a case where the fistula healed. It has been my experience in these cases that the fistula remains open until the kidney is finally removed, that is, where the operation is done for abscess of the kidney proper.

Dr. W. L. Rodman: When I went on duty at the city hospital again two weeks ago, and saw the patient, Mr. K., whose case Dr. Bullitt has reported, I thought he, of all others, was a man "who had suffered much of many physicians." Two years ago I did an epicystotomy upon him, and to make sure that perfect drainage would be secured I inserted a catheter. After this I assisted Dr. Holloway in an operation upon the same patient for ventral hernia. Between the two operations, I understand Dr. Vance did a lumbar nephrotomy. I then did a third operation, making an incision in the lumbar region, Dr. Grant assisting, as he followed me in the ward. After cutting down upon the kidney, it was found very large, extending low down below the crest of the ilium, and looked to us more like the large smooth kidney of Bright's disease. We made a free puncture at several points, but failed to find pus. I was not a little surprised, as I fully expected to find pus from the previous history of the case. I used a very large needle in puncturing the kidney, and remember there was some little leakage of urine for several days afterward. I am glad Dr. Bullitt has reported the case and showed the specimen. I should have catheterized the ureters at the time of performing epicystotomy. I have done so with ease in other cases.

Dr. Jas. B. Bullitt: There is only one point of importance in connection with the case. When one kidney can be demonstrated to be diseased, what is the surgical indication? That is, if there be a supposition that the other kidney is involved also, that the surgeon go in and remove the kidney that he knows to be diseased? In this case it was easily demonstrable that there was one surgical kidney which was a menace to the man's life, by the removal of which he might get well, but the probability also existed that the other kidney was involved, but this was not demonstrable. There are very few of us who so far have been able to catherize the male ureters, which would be the only way of settling the question beyond any doubt. In looking over the literature of the subject the consensus of the opinion seemed to be that where it could be demonstrated that one kidney alone was involved the indication was to remove it, to give the patient the only possible chance of recovery.

I am sorry to say the patient upon whom we operated was not particularly improved by removal of the affected kidney, and there is a probability that the other kidney is also involved, although the condition of his bladder may account for many of the discomforts which he now suffers.

Dr. Jas. S. Chenoweth: In reply to Dr. Roberts' question: I have performed several nephrotomies and have never seen one of the wounds heal perfectly. I believe nephrotomy, followed by secondary nephrectomy, has been shown to be a much safer operation than primary nephrectomy. I operated upon a case two years ago in which I did a nephrotomy for abscess of the left kidney. I could at that time detect no disease of the right kidney, but I did a nephrotomy, not a nephrectomy, as the woman was in a very weak condition, and it was advisable to make the operation as short as possible. After this operation suppuration continued in the kidney, and I was able to illuminate the pelvis through an endoscope and without any difficulty demonstrate disease of the other kidney. Pus could be seen coming out of the ureter distinctly. Notwithstanding there was demonstrable disease of both kidneys, she is still in a fair state of health. I do not believe the excretion coming from this nephrotomy opening amounts to anything as far as relieving the system is concerned. The fluid seems to be nothing but clear water. The ureter of that side is obstructed one inch from the lower end. With the elevated pelvis and endoscope the tip of a small whip bougie inserted through the fistula above could be seen as it entered the bladder, and on withdrawing it one inch there was a gush of pus and urine.

Another point in connection with these cases—handling the pedicle and controlling hemorrhage as well as getting rid of the ligature. This is a point of considerable importance and a hard feature to deal with. After operating upon the case I reported, Dr. Vance tried to devise some means of getting rid of the ligature and prevent a prolonged convalescence. He suggested that the ligature might be cut by means of a small platinum wire and electricity without appreciably enlarging the external wound. Several other more or less ingenious methods have been suggested, but of their actual utility I have no knowledge. The method by which removal of the ligatures was accomplished in the case I reported was very satisfactory, although I would not care to adopt it as a routine measure.

EPITHELIOMA OF THE FACE TREATED WITH LACTIC ACID PASTE.*

By I. N. Bloom, A.B., M.D., Louisville, Ky.,
Dermatologist to the Louisville City Hospital, etc., etc., Louisville, Ky.

THIS patient was shown before a meeting of the Louisville Surgical Society three months ago. At that time those of you who saw him will remember he had an undoubted epithelioma on the right side of the face, involving the ear to a greater or less extent, and the application of es-

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes.

charotics was suggested. He is a man who has suffered a great deal, and I do not think bears pain as well as men usually do.

Lactic acid paste was applied daily for a week, after which time he was unable to endure the pain produced, and began to use a 20 per cent. idioform salve. I did not see the patient again until he came to my office three weeks ago, an interval of six weeks or more, and my only reason for exhibiting him again to-night is to show the remarkable improvement which has taken place under the use of lactic acid paste for such a short time. When he consulted me three weeks ago I again suggested the use of paste, but it gave him so much pain that it was only applied three consecutive nights. I have not seen the man since the last application of the paste until to-night.

By an examination you will see the improvement has been marked; the involved area is not half its original size, and I feel satisfied that a few weeks' constant treatment with paste would bring about a complete cure. You will remember, when previously presented, we all agreed that it would advisable to amputate the ear. I have since insisted upon this course both with the patient and his daughter, but consent to the operation has not yet been obtained.

The patient now complains not so much of pain during the day, as a whistling sensation in the affected ear, which at night is so severe as to keep him awake. He claims to have slept little or none during the last few weeks. I am unable to determine the cause of this whistling sensation, unless the disease has caused a closure of the passage, and there is considerable detritus bebind the stricture.

REMARKS.

Dr. W. C. Dugan: I examined the patient when Dr. Bloom presented him before the Surgical Society, and agreed that it was a case in which the application of caustics promised more than anything else. I am gratified to see the result. It demonstrates beyond any doubt that this man can be relieved by the thorough and continued use of the paste, as suggested by Dr. Bloom.

Dr. I. N. Bloom: I have had within the last twenty months fifteen or eighteen cases of undoubted epithelioma of the face, varying in size, and in all the result has been perfect; all were treated in the same way, with lactic acid paste. One patient, a woman aged eighty years, had an epithelioma in the worst place about the face—upon the nose—where the blood supply is so poor that we would be less apt to secure a good result than even on the cartilage of the ear, the blood being so poor that repair is difficult. I began using the paste cautiously, and made no promises as to what the result would be. I make no claim as to originality in this process, as it was instituted several years ago by Mosetig Von Moorhof, and I firmly believe, as he claimed, that lactic acid has the power (which cannot be said of any other chemical we have) of attacking and destroying cancerous tissue, and leaving healthy structures absolutely without damage. Lactic acid is one of the most feeble caustics we have. I handle it constantly in my fingers without any precaution, and it requires a long time before it takes off even the superficial surface of the epidermis. And if it is a strong caustic for diseased tissue and does not affect the healthy structures, I think it is the caustic *par excellence* in these cases.

This is said of various forms of arsenious paste. Arsenious acid is almost always used in combination—rarely alone—usually with chloride of zinc.

I have been surprised in my cured cases at the smallness of the scar. In some of the cases it was almost impossible, by the closest inspection, to discover the original site of the epithelioma. With the galvano cautery applied at proper heat we cannot avoid destroying healthy as well as cancerous tissue, and where this is done an extensive slough is produced which will leave a large scar. While the patient before us has not entirely recovered, yet it is certainly another triumph for lactic acid paste, and I feel confident if the treatment is followed a perfect cure will result.

BLADDER DRAINAGE AFTER SUPRA-PUBIC CYSTOTOMY.*

By W. O. Roberts, M. D., Louisville, Ky.,

Professor of Surgery and Clinical Surgery in the University of Louisville, Ky.

SOME time ago I exhibited to this Society a patient upon whom I had done a supra-pubic cystotomy for removal of a calculus. The patient was an old man who had a very much enlarged prostate, and who had been leading a catheter life for several years, so I determined to make a permanent fistulous opening through which he might empty his bladder. The operation was performed a year ago last June. He made a prompt recovery and had no trouble up to a few months ago, being able to retain his water several hours, having to get up to empty his bladder only once or twice during the night. He emptied his bladder by simply pulling out the permanent stem, which he had worn since the operation, when the urine would flow out just as it would through the urethra.

Eight weeks ago he came back complaining that he had to pass water much more frequently than usual, and I suggested that possibly another stone had formed. I sounded the bladder and detected a stone, which I took to be small in size. I enlarged the original fistulous opening until I could get my finger into the bladder. The stone proved to be a soft one, and in attempting to extract it it was crushed, and I removed several pieces, some of them being as large as the first joint of my little finger. I irrigated the bladder thoroughly, and thought I had gotten rid of all the fragments. Examining him again before he left the table I felt another fragment and made several unsuccessful attempts to remove it; finally it must have gotten down behind the enlarged

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes.

prostate in the neck of the bladder, as I was unable to find it, or I thought possibly it might have been washed out and escaped detection. I put in a large stem, nearly as large as my thumb, and washed the bladder through the opening frequently. A week after the operation he passed through the opening the calculus which I show you. It is two inches in length and about three-fourths of an inch in diameter.

I have another gentleman wearing the same character of stem, and in this case also several additional stones have formed. He came to my office one day, and I put him on the table, and introducing my fingers through the fistulous opening I felt four small stones and removed them. The next day he was up and about as usual. I shall keep these patients wearing the large stems, so that in the event any further calculi develop I will be able to extract them with forceps without enlarging the original opening.

It is a little strange to me that there should have been such a rapid re-formation of stones in these cases while the patients had such a large external opening in the bladder. Some time after the operation I kept in the bladder a hollow rubber tube, and the phosphatic deposit would accumulate in the walls of this tube. I took benzoic acid with a sufficient quantity of borate of soda to dissolve it, and soaked the tube in this, which dissolved the phosphatic deposit very quickly. I am washing out the bladder with this solution.

CLINIQUE.

METROPOLITAN HOSPITAL BLACKWELL'S ISLAND NEW YORK.

CLINICAL LECTURE BY DR. ALFRED K. HILLS.

Reported by Dr. J. Cambridge Wharton, Senior House Physician.

CHRONIC ARTICULAR RHEUMATISM.

E. G., born in Ireland, fifty-five years old, is suffering from chronic articular rheumatism, and the history shows no heredity. She has taken alcohol and tobacco in excess.

She has had more or less remitting pain for many years, and was admitted here September 11th last for an acute exacerbation, and bryonia was given previous to my seeing her.

November 19th she complained of pain toward morning, lasting an hour or two, aggravated by cold air; the parts are sensitive to touch and the patient is fond of acids. I gave her at this time nux vomica to tone up her nervous system, with calc. sulphurata as an alterative.

I also prescribed two quarts of hot water per oram each day, and sweating with hot bottles and blankets. She lies with her limbs drawn up and there is some contraction of the tendons, which we shall try to straighten out as she gets better of the pain.

The patient is poorly nourished, is pale and waxy, as you see, and the blood shows 8 per cent. hæmoglobin and 3,500,000 corpuscles to a cubic millimetre. We are giving her as full a milk diet as possible, with such other articles as she can take. She dislikes meat, and it disagrees, as might be expected.

In consequence of this condition I prescribed pepto-mangan (Gude's) and small doses of sodium salicylate, and the improvement has been more than was expected. We shall try to make her a useful member of society again.

CHRONIC CYSTITIS.

M. J., of German birth, seventy-three years of age, was admitted April 21, 1896, suffering with pyuria.

She has been, at times, an excessive beer drinker, and complains chiefly of anæsthesia of her feet, which came on about seven months ago. On admission she had diarrhœa, always a movement about an hour after eating; no pain or straining and passes but little at a time. Her appetite is small and there seems to be no stomach lesion. (She has a large ventral hernia, for which she was examined in the surgical division, but nothing could be done, I believe, on account of her general weak condition. She had been taking at different times apis and cantharis before I saw her.

The urinalysis shows at times a trace of albumin, pus, blood and a few granular casts. There is also a great deal of bladder epithelium and some from the kidneys.

I ordered, as the urine was excessively acid, an alkaline drink of potass. acetate, ʒi. to Oj., and the bladder to be washed out daily with boracic acid, ʒi. to Oj.

This is a case, I believe, in which the primary lesion was in the bladder, the kidneys becoming involved secondarily. There may be also some lesion of the nervous system which has not yet been determined. I want at this time to call your attention to the importance of treating a case like this by washing out the bladder as early as possible, as we have now done, and which should have been done before.

I shall also give her in place of the potassa a solution of boracic acid internally. She will also get pichi internally, for its soothing effect upon the bladder.

The patient is not well nourished, and it seems difficult to increase her appetite, which, together with her age and the nature of her disease, makes the prognosis guarded.

She will be given all the milk she will take, but nothing alcoholic; beer is especially injurious in such cases.

Rest quietly in bed must be insisted upon.

The patient is rather indifferent and apathetic, and it is difficult to obtain indications for the use of remedies as I would like. Mineral waters will be prescribed as indicated. Her appetite and strength have gained much under this treatment.

SIMPLE ULCER OF THE STOMACH.

M. M., born in Ireland, aged thirty-five, was admitted here November 12, 1895.

Some of you will remember to have seen her before, and at that time, while we were considering

her case, she experienced an epileptiform seizure. I am happy to say it was the last severe attack she has had, and that she says, and I think the symptoms bear her out in saying, that she is much better than when we saw her last.

It is a simple chronic ulceration of the stomach following chronic gastritis, and probably traumatism. There is considerable gastralgia, and we may rule out cancer, as there is no tumor to be detected. It is astonishing to note the percentage of ulcers found *post mortem*.

I am sorry to say that her habits have not been of the best, as she has a history of periods of heavy drinking. Her mother died of Bright's disease, and this history shows suppression of urine at times, so that the daughter will go the way of the mother, if she is not careful. Alcohol should be prescribed in such cases with great caution, and it should never be taken unless prescribed.

Her history shows that before admission here, she not only vomited all food but blood also, and that she was delirious, for a time. Hemorrhage is often the first symptom to attract attention.

As might be expected, all food caused pain in the stomach soon after taking it, then would follow vomiting of food and blood, and an epileptiform convulsion such as you witnessed.

I am sorry to say that she has become habituated to the use of morphine, so that whenever there is pain there is no relief until she has the hypodermic, but we shall devise means to get over this shortly. It is unfortunate that we should be tempted to give morphine in such a case, where there is every probability that it must be continued for a long time, for once done, it must be repeated again and again, and the recovery is retarded.

There is tenderness on pressure at the cardiac end of the stomach only, and this is the point where the hydrochoric acid, which is also said to be in excess in these cases, has caused trouble by impairing the tissue. Careful examination will often fail to find the acid, however, although it is present in this case.

This tenderness is also just at the point where the patient was struck with the top of a sewing machine two years ago, and this undoubtedly is an important factor in the etiology of this case. Tight lacing, and other pressure, may be a *cause in many cases*.

The tongue was coated white, there was a bad taste in the mouth, and there was sleeplessness, with frontal headache and slight cough. These symptoms were all due, I think, to nasal catarrh. There was no appetite, bowels constipated (perhaps due to morphine), urine voided frequently in copious quantity. There was also pain in the back in the region of the kidneys.

The heart's action was weak, and there was mitral stenosis with regurgitation.

The patient received from time to time caps., nux vom., arg. nit., bis. sub nit., ip., ars., and when I found her she was taking hydrocyanic acid.

She had been nourished by sarco-peptones per oram, and for a time per rectum, until the rectum refused to retain the injection.

When I first saw the patient I found her much emaciated; she frequently raised blood by the mouthful and she craved cold drinks and ice, which were ejected when becoming warm in the stomach.

It seemed to me that phosphorus was indicated in the case, and that is the remedy she has taken all the time. Intercurrently she has received gelsemium for a neuralgia extending from the base of the brain to the vertex, coming on at 11 o'clock, A. M., and due undoubtedly to her nasal catarrh and to uterine displacement.

I also had her bowel thoroughly washed out daily for a few days with hydrozone, 1 part to 32 of water.

Internally she received a teaspoonful of hydrozone in a wine glass of water three times a day.

The stomach has not yet been irrigated with a boracic acid solution, but it will be if necessary, and it is an excellent agent chemically where there is excessive acid condition.

Hot compresses of hamamelis in water have been applied to relieve pain.

I ought to say that the blood has passed by the bowels more of late, and the appetite has returned.

I have allowed the sarco-peptones to continue, and prescribed koumyss with excellent effect. The food is given in small quantity at frequent intervals, and I shall shortly offer hot milk, as hot as she can sip it, with or without lime water, as may be necessary.

It is important that large curds should not be allowed to form, consequently kumyss is given, or lime water is added to the milk, or Fairchild's pancreatic tubes may be used.

This is just the kind of patient in which you find the majority of these ulcers.

They occur in women as 3 to 1, and between the ages of twenty to sixty. They are a poorly nourished, overworked lot, who subsist largely on stimulants of some kind, perhaps tea, maybe beer, sometimes worse.

We should remember that *pain, vomiting and hemorrhage are characteristic; that we must be sure there is no cancerous tumor; that the blood is not frothy and bright in color, as when it comes from the lungs;* that pressure aggravates and rest, general and local, relieves. This patient is much better when kept quietly in bed, although she wants to sit up.

The prognosis is generally good in these cases, although we may have a fatal hemorrhage, but the transfusion of a salt solution may save life in the last extremity.

This is not a case in which we should expect internal remedies to do the whole work, but we should bring chemistry and dietetics to our aid. Arsen., bell., phos., chin., ip., arg. nit., ¼ gr.; kali bich., iod. merc. cor., hydrastis, hamamelis and other drugs should be prescribed according to indications.

If we *must* have a palliative, I much prefer some of the newer coal tar derivatives, such as the lactophenin, acetanilid in some of its combinations, or some other antipyretic, all of which will be far less harmful than morphine, but it is better

for us, if possible, to find the remedy which is going to cure the case without any of these.

EXOPHTHALMIC GOITRE.

Miss S., a private patient of mine, who has kindly consented to allow me to demonstrate in your presence to-day the affection from which she is suffering, is twenty-two years old, single, and was admitted to this hospital October 22, 1896.

Her case is one of the class which was first recognized and described now over a century ago, and the first instance in which I have been able in over twenty years' service in this institution, to show a case of typical *exophthalmic goitre*.

So far as I can ascertain there is no history of heredity in the case, excepting, perhaps, as respects a nervous temperament.

The diagnosis here is easily made out, as we only have to differentiate simple goitre, which has none of the cardiac or eye complications.

The characteristic symptoms of the disease, viz.: *Tachicardia*, *exophthalmos* and *enlarged thyroid gland*, were all fully developed in this patient.

The first symptom to appear was the rapid and tumultuous action of the heart, accompanied by extreme nervousness, the consequence of mental shock experienced some three years ago, and just prior to the onset of her trouble.

Puberty was established when she was fourteen years old and her periods had always been regular until three years ago; after the mental shock they became very irregular, scanty, and lasting but two days.

When I first saw her, about a year ago, the three cardinal symptoms of the disease were well marked, the pulse being 160; respiration, 36 to 40, expansive power of the chest less than an inch on account of general muscular weakness, and her bowels periodically and alternately loose and constipated.

The state of her nervous system was one of exquisite sensitiveness, and she easily became excited and hysterical. These patients are generally hypersensitive to their surroundings, are irritable, oftentimes cross, and are ready to contest the slightest attempt at fault finding on the part of those about them.

This patient has been particularly unfortunate in some of her social relations; her troubles commenced after a severe shock in the sudden death of a member of her family, and have been aggravated all the time by family relations, which are strained.

When she was admitted here she had just been through one of these trying mental ordeals. The heart's action was 152 per minute, respiration 36. Eyes much more bulging than you see them now, and the thyroid was much enlarged. Her skin was hot and dry, her face was flushed, and she seemed much excited. The apex beat and heart sounds were normal, but the impulse was transmitted in every direction, clear and distinct.

There is a deposit of pigment of a dark brown color around the nipples, a symptom that may be observed in any part of the body.

This patient seems most comfortable lying on her back. Her chest expansion on October 30th was 1¼ inches; has steadily gained in weight since admission.

Before entrance here, I had given the patient sedative doses of ignatia, phosphoric acid, and for the loosenss of the bowels sodium phosphate, a tissue remedy, which was of great benefit to her.

At present her bowels are perfectly normal. To steady the action of the heart, aconite tinct., drops ii., was given every two hours, and three grains of potassium iodide, in milk, three times a day. This treatment increased her appetite enormously, and she steadily gained body weight.

On November 12th galvanization of the sympathetic was given once, and then daily through her hands for 10 to 15 minutes for the effect upon the general circulation, 5 to 10 milliamperes being given.

November 16th, her pulse being 140, and aconite having been given a fair trial, strophanthus, xv. drops, was administered daily in three doses, the potassium being continued. Her pulse at present, when at rest under strophanthus, is 92; respiration, 22; chest expansion, 1½ inches.

Her diet has been as generous as possible, during all the treatment. When I first saw her, on account of her being anæmic and unable to eat meat, I ordered a natural iron water without effect, the sodium phosphate having the desired action, both as to the condition of her bowels, her appetite and general nutrition.

She can now eat any article of food with enjoyment, digest it, and the condition of her bowels is all that could be desired.

The rest treatment modified to suit the individual case is of great service in all these patients.

The peculiar tremor, nervousness and tachicardia, will enable us to make an early diagnosis in these cases, provided they came under observation, but the majority come to us as this one did, after the condition has become chronic, when it takes a long time to cure.

The irritation of the medulla oblongata at the level of the middle of the restiform bodies is supposed to be responsible for the condition under consideration.

The *white* substance appears to control the tremor, the movement of the eyes and the respiration, while the *gray* affects the heart. The pathology of this subject leaves no doubt that the first disturbance is vaso-motor and the second increase of connective tissue.

It is thought by some that the disturbance may be by direct influence upon the nervous system, or of an influence exerted through the thyroid direct.

The primary cause may be undoubtedly reflex, its seat being in the reproductive organs, or in the intestinal canal from poisonous ptomaines, or other irritating agents.

In some cases the catarrhal enteritis with profuse secretion or otherwise, are troublesome symptoms, as in the case before us, as the manifestation was in the form of profuse, watery diarrhœa and constipation alternately.

There has been great vascular engorgements of

the coronary vessels of the heart from vaso-motor disturbance, in this case, which accounts for the increased impulse, but there is no valvular lesion.

There has also been very much engorgement of the vessels of the thyroid and of the eyes, with infiltration of the tissues, the effect of which you may see in the still bulging eyes, although all these symptoms have decreased to a large extent.

Throbbing is a common symptom in these cases, and should not mislead us in prescribing, for belladonna is unfrequently of service in the treatment.

The swollen thyroid sometimes induces fear of strangulation, and you may feel the peculiar thrill by placing your hand upon the gland, or hear the bruit by auscultation with your stethoscope. The muscular movements of the eyes are now fairly good in this case, as the exophthalmos is subsiding.

There is a tendency in these cases to glycosuria, and the urine should be watched for the first indication.

I have not found thyroidectomy necessary in any of my cases, of which I have had a large number.

The treatment in this case has been individualized, as it must be in all. No single means will suit all cases, and a great variety of agents must constitute our armamentarium. Our literature teems with agents that positively *cure*, and we find equally positive denials of their usefulness. There is a lack of positive indications or peculiarities in these reports, which will account for the failures. Idiocyncracy is too important a factor in our makeup to suppose that drugs can be generalized with any hope of universal success.

The prognosis has become of late much more favorable than formerly, owing to our improved facilities in the direction of nutrition. There is now and then a case of death from heart failure, generally due to acute seizure of some kind, or from long-continued mal-nutrition, but rarely does apoplexy occur, notwithstanding the hypertrophied condition of the heart.

In my experience, when the patient can be kept under sufficiently close observation to enable us to meet conditions or complications as they may arise, complete recovery may be expected in a reasonable length of time.

Recent investigation shows iodine to be a normal constituent of the thyroid, and experiments have shown that the quantity was lessened in the diseased condition.

Thyroid extract has been extolled and condemned in about equal proportions, and I think experience will bear me out in saying that when the gland is over-active, the extract is not tolerated, and that it has been of service in cases where the secretion was abnormally wanting.

The latest claim is that an attack of exophthalmic goitre has been induced repeatedly in the same person, by large doses of dessicated thyroid, and the same excellent authority claims to have cured the affection promptly in a few weeks with small doses. The statement certainly goes to prove its dual action, which we believe is the foundation of the study of all drug effects.

I am of the opinion that these patients should be humored if they are whimsical, and all antagonistic influences avoided. We cannot be too kind and considerate in our conduct toward such patients. As my hour is up, I shall not have time to speak farther of the nutrition and the therapeutics as I had intended.

Ulnar Nerve Anæsthesia in Tabes.—Patches of anæsthesia are frequent in tabes, and constitute a very useful means of diagnosis. Biernacki (*Medical Bulletin*) has pointed out a new manifestation of anæsthesia in this disease. In fourteen out of twenty patients he found that digital compression of the ulnar nerve at the elbow gave rise to no pain. With the exception of hysteria this sign appears peculiar to tabes.

The Old-Fashioned Bistoury Must Go.—Do not use the old fashioned curved bistoury in opening the simplest abscess, says the *International Journal of Surgery*. It is unsurgical, because you proceed from within outward—from the unknown to the known. This is a false principle in philosophy, in surgery, in everything. Cut from the surface inward and you can deal with difficulties in the order in which they occur. Always work with the aid of sight and do not pin your faith on anatomy.

Headaches from Eye Strain.—Dr. S. Weir Mitchell, in an article on the subject (*Medical News*) formulates the following conclusions: (1) There are many headaches which are due directly to disorders of the refractive or accommodative apparatus of the eyes. (2) In some instances the brain symptom is often the most prominent and sometimes the sole prominent symptom of the eye troubles, so that, while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital or frontal headache. (3) The long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea and general failure of health. (4) In many cases the eye trouble becomes suddenly mischievous, owing to some failure of the general health, or to increased sensitiveness of the brain from moral or mental causes.

Acute Nephritis from Oxalic Acid Poisoning.—At a late meeting of the Pathological Society of London, Dr. Hale White brought forward two cases of nephritis due to oxalic acid poisoning. The first was fatal, apparently from uræmia, six days after the acid had been swallowed. The necropsy revealed acute tubal nephritis, with several minute masses of oxalic crystals in the kidney, only visible with a high power. Neither patient showed any œdema, high tension pulse or hematuria, nor did they complain of pain in the loins, although this might have been obscured by the general abdominal pain. The symptoms appeared, judging from these two cases, to be scanty urine. The fatal case had almost complete suppression and albuminuria. The urine contained granular and epithelial casts, together with calcium oxalate crystals. Both the crystals and the albumin were found in both cases in the first specimen of urine passed after the acid had been swallowed. In the case which recovered the crystals disappeared from the urine in twenty-four hours, the albumin persisted four days and the casts about a week. The quantity of urine gradually increased, until on the fifth, sixth, seventh and eighth days from swallowing the acid much more than normal was passed, and it was pale and of low specific gravity. Seven days after taking the poison this patient passed a quantity of phosphates in his urine, and after this he often passed a considerable quantity of uric acid. In the fatal case the oxalate crystals and the albumin remained in the urine till the end, and the amount of urine passed in twenty-four hours varied between a drachm and four ounces.

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RUSKIN says: "The more I think of it, I find this conclusion more impressed upon me—that the greatest thing a human soul ever does to this world is to see something and tell what he sees in a plain way. Hundreds of people can talk, to one who can see. To see clearly is poetry, prophecy and religion, all in one."

Occasionally a Shakespeare in literature or an Emerson in philosophy startles the world with thoughts of crystal clearness, expressed in language which all can understand. These men stand out on the pages of the world's history and progress as prophets, who have drunk at the fountain of inspiration, and impressed their thoughts upon the world in language so strong and beautiful in its simplicity that it is never forgotten, but influences lives for good through all time.

To see clearly is one thing, but to give that sight expression in words of equal clearness, conveying precisely the same impression to others as to one's self, is quite another. Half of the wordy contests in the world arise from a failure to comprehend each other's meaning in the use of words, and perhaps the other half from imagining the impressions you receive are absolutely correct and your line of reasoning without shadow or flaw. Possibly the truth which seems to you so clear is only a half truth, and only when the master mind clears away the refuse and dispels the shifting shadows and gathers together into one shining perfect crystal all the parts, does it so touch our inner consciousness with its perfection as to dispel all doubt and silence all conflict. To see clearly, grasping a whole truth at once, is the gift of but few, but this clearness of vision is generally accompanied by a clearness of expression in language as simple and as intelligible as the thought is perfect.

There may be but few prophets, but every human being is linked to the Divine, and registers some notes of the Divine Wisdom. As Emerson so beautifully says: "We live in succession, in division, in parts, in particles. Meantime, within man is the soul of the whole, the wise silence, the universal beauty, to which every part and particle is equally related; the Eternal One." The more man recognizes the fact that he contains within himself a part of God, through which he holds a relationship more or less intimate with all things animate and inanimate, the more does he touch the keynote of all knowledge, the clearer is his mental vision and the keener his perception of truth. The cynic, full of bitterness and censure; the pessimist, forever looking on the dark side, always a prophet of evil, are not in the condition to see clearly, or catch in the sensitive mind and blend them into a living picture, full of beauty and truth, the rays of Divine truth as they flash from every object in Nature. The most powerful telescope, directed to the heavens, requires to reflect truthfully the objects upon which it is directed a clear atmosphere, free from dust or the accumulation of moisture, otherwise it presents only distorted pictures, blurred and useless. And so the human mind needs to be surrounded by a mental atmosphere clear and pure, so that it can work out the problems of Nature free from the disturbing influence of inordinate conceit and cynical or bitter antagonism.

Ruskin never uttered a greater truth than when he said: "To see clearly is poetry, prophecy and religion, all in one." For to see clearly one must be in harmony with Nature, animate and inanimate, and with God, of whom he is a part.

No one can look upon the record of 1896 without being startled at the immense step it has taken in advance of all preceding years. We stand nearly blinded by the intensity of the light which surrounds us, and almost speechless as it reveals in dim outline the possibilities of the future. Surely the mental atmosphere is becoming clearer, and we are looking with a brighter vision upon the thought of God, as traced in His works. All hail, 1897! May its record be even brighter than 1896.

TESLA does not agree with Edison that there is a possibility of making the blind see by means of the X-ray. He says it is impossible,

and that it is cruel to raise such hopes when there is so little ground for them. And yet Edison is not in the habit of jumping at conclusions, and every one hopes that his prophecy may prove true.

PAN AMERICAN MEDICAL CONGRESS.

A CONSIDERABLE number of representative American physicians met in the City of Mexico November 16th to 19th to attend the Second Pan-American Medical Congress. The Mexican climate was at its best, and the courtesy and hospitality of the cultured people of a city, old and yet new to most of our Northern people, contributed to the pleasure of the visitors. Dr. Pepper, of Philadelphia, read an interesting paper on "The Use of the X-rays in Diagnosing Thoracic Aneurism."

The arrest of the X-rays by an aneurismal tumor was owing to the blood, and probably the iron contained in it. It had been asserted that tuberculous deposits were also impervious to the rays, but this was still a matter of uncertainty.

Dr. Manuel Buiz Casarbo, of Havana, read a paper on "The Physico-Chemical Character of the Urine in Yellow Fever." Another paper on the same subject was read by Drs. E. Acosta and I. M. Davatos, also of Havana.

The conclusions reached by bacteriological experiments were that the urine of yellow fever patients contain toxines, which are separated by the diseased system, and which perhaps pertain to the agent that produces the disease. The toxic power of the urine reveals the actual condition of the patient, so much so that the toxic power is in inverse ratio to the gravity of the disease. Yellow fever patients die through poisoning by the toxines of the germ which produces the disease, and never from uremia.

Dr. Antonio Macias, of Guanjuato, Mexico, advocated the use of iodide of potassium as an indirect hemostatic in passive hemorrhage of the uterus of asthenic character. The theory is that potassium iodide is a cardio-vascular, muscular excitant, which reduces venous tension in the uterus, whether simple (hyperæmia) or accompanied by extravasation (hemorrhage). It relieves congestion, and acts thus indirectly as a hemostatic. Its action is certain, powerful and lasting, and it is not poisonous. It resembles in its action that of the normal blood, which is the physiological stimulant of the circulating system. The remedy should be given in moderate doses. The indications for its use are all forms of passive hemorrhage from the uterus, whether from general or local causes. Dr. A. M. Holmes, of Denver, Col., presented a communication on "The Diagnosis of Tuberculosis by Means of a Microscopical Study of the Blood," of which the following are the conclusions: 1. The diagnosis of tuberculosis from the morphological appearance of the blood rests upon the hypothesis that each individual has a biological prototype in the leucocytes of his own blood. 2. Leucocytes are independent organisms with functions analogous to those of the larger organism. 3. These pass through various stages of growth and decay. 4. Disintegration of leucocytes may occur at any age. 5. The leucocytes are tissue formers. 6. As are the leucocytes so is the individual. 7. Tuberculosis is a disease characterized by tissue disintegration. 8. In tuberculous blood there is abundant cell-disintegration, premature development, premature decay, and a greater or less deviation from the normal average of the various types of cells. 9. If there is a marked disintegration in the leucocytes, it is with certainty that we can predict a similar condition in the larger organism. 10. Tuberculosis possesses a combination of blood appearances, from which a diagnosis may be made earlier than by any other means that we now possess. 11. These changes may be recognized by appropriate micro-chemical stains and a high magnification. 12. They can be recognized even before the disease manifests itself in the individual. 13. They are sufficiently marked in tuberculous individuals, or even in those with a strong tuberculosis predisposition, to enable a diagnosis being made from the blood alone, without knowledge of the history or physical condition of the patient. 14. Thus far, no other pathological condition has been found which presents similar blood appearances. 15. An early diagnosis would enable many to avail themselves of favorable climatic changes, and thereby delay or even prevent the destructive results which would otherwise inevitably follow. The entire meeting was characterized by great harmony and was of unusual interest.

ARE NERVOUS DISEASES INCREASING

DR. PHILIP C. KNAPP, discussing the above question in a recent number of the *Century* (*Medical News*), asserts with all the authority that can be drawn from as yet incomplete statistics, that the increase in the relative number of insane among the more highly civilized nations is more apparent than real. This is owing to a number of reasons, the chief of which are the change of view entertained toward insanity and its treatment by society, who now look upon it as a disease and not a disgrace, and the present facili-

ties for its better and more frequent detection. Dr. Knapp also shows that, although Americans are more restless, or rather more active, than other nations, they are not more prone to nervous maladies. The so-called American disease (neurasthenia) constituted only 10 or 11 per cent. of all nervous cases presented at the clinics of several American charities, whereas in Paris 12 per cent. are so classified. Moreover, a large number of the cases treated in America are among our imported population. In the matter of hysteria, its percentage in Europe is several times greater than obtains in America. The relation of nervous disorders to, and their dependance upon, other physical defects, either inherited or accidentally acquired, is duly emphasized, after which it is proven that, as a race, we compare favorably in almost every particular with any other, and are hence not more liable to nervous disease, a fact which is borne out by the mortality tables of life insurance companies, as well as other sources of reliable information. The increasing vigor and self-reliance of our women have banished much of the semi-affected nervous vagaries of the past, and replaced them by an admirable power of resistance and self-control. With a better understanding of their causes and a daily improvement in scientific methods for their prevention and control, it is concluded that nervous diseases are not increasing, but, on the contrary, the natural inference may be drawn that they should be expected to diminish.

In the study of these and other portions of the body that might be considered as still undergoing an evolution, it was important, he said, to note in the different races the degrees of divergence presented from the ordinary normal type and the percentage of relapse into more primitive conditions.

As the muscular system offered a degree of plasticity not found in the harder tissues, he was strongly inclined to think that the study of its variations must be fraught with interest and instruction. But in the study of these variations, he said, a sharp distinction must be made between those that were atavistic (the levator claviculæ, dorso-epitroch-learis, etc.) and those that were prophetic, (*e. g.*, the occasional appearance of a double abductor pollicis and the occasional absence of the palmaris longus); also in the study of all variations, whether muscular or not, due care must be exercised in eliminating fortuitous cases—sports or monstrosities—such as supernumerary digits and incisors.

In this study of atavistic structures percentages of relapse might throw important light on racial structural peculiarities. Muscular racial variations were most instructively investigated in those organs that were distinctively human, such as the hand and foot.

As man descended from arboreal, quadrumanous animals, his assumption of the upright posture has led specialization in two different directions—the thoracic extremity for prehension and the pelvic one for locomotion.

On the one hand, man's thoracic extremity, (especially his hand), having been used for vastly more diverse and complicated purposes than those of his simian ancestors, has undergone greater specialization ; for instance, the extensor secundi internodii pollicis was completely separated from the extensor indicis ; the flexor longus pollicis was detached from the flexor profundus digitorium ; also the extensor minimi digiti had withdrawn its additional tendons from the third and fourth digits and was now restricted to the little finger. The extensor primi internodii policis was separated from the extensor ossis metacarpi pollicis, etc. On the other hand, the muscles of man's foot, which in his simian ancestors had been concerned in making his foot prehensile as well as locomotor, were, through disuse, undergoing atrophy and disappearance (*e. g.*, the adductor and abductor hallucis and flexor brevis minimi digiti) where they were not generalizing by fusing (*e. g.*, the flexor longus hallucis with the flexor longus digitorum).

The opponens hallucis was a muscle that was was found normally only in the orang. It occasionally occurred in man as a reversion.

Therefore, said Dr. Shute, in view of these facts, the following question was an interesting one: Do the different races in respect to these structures present different percentages of reversion to the simian characteristics ?

It was interesting to note in this connection that percentages of reversion in osseous structures differed in different races and epochs. For instance, it has been observed that the intercondylar forament was present in a little over 3 per cent. of the skeletons of the present time ; in a little over 5 per cent. of those that belonged to the time from the fourth to the tenth centuries ; in 24 per cent. of those belonging to the Dolman period, and, finally, in 30 per cent. of those of the Reindeer period.

Again, the third trochanter of the femur had been found in one per cent. of our race ; in 37 per cent. among the Swedes ; in 50 per cent. of the Sioux, and in 64 per cent. among the Laplanders.

In the light of these facts, Dr. Shute thought that a wider study of muscular variations in differ-

ent people would present an interesting and instructive field for the investigation of racial anatomical peculiarities.

He mentioned some of the anatomical peculiarities which, he said, taken together, stamped a race as inferior—viz., cranial sutures that were simple in arrangement and united early; a wide nasal aperture, with the nasal bones ankylosed, undue projection of the jaws and receding chin; well-developed wisdom teeth, appearing early and permanent; a humerus of undue length and perforated; an elongated calcaneum; a small calf of the leg; a flattened tibia; a narrow pelvis, etc. These characteristics were simioid, and the races possessing them in the largest number and development were the lowest in the scale.

Measured by these criteria, the Caucasian stood at the head of the racial scale and the negro at the foot.

LEPROSY.

THE question as to the contagiousness and quarantine of leprosy, which we discussed in our last issue, has attracted the earnest attention of the New York County Medical Society, which has appointed a committee of eminent scientists, consisting of Drs. George B. Fowler, George Henry Fox, Henry G. Piffard and Edward B. Bronson to report upon the contagiousness of leprosy in New York City and as to the necessity of segregation. The report says: "It is agreed that leprosy is an infectious disease. A disease which is infectious is not necessarily contagious.

"In certain regions leprosy is prevalent and endemic. In these, the disease is apparently communicated from individual to individual and is contagious, though the mode of contagion is unknown. There are other countries to which lepers have long had comparatively free access by immigration, and in which numbers of them have had more or less prolonged residence, and yet they afford no evidence whatever of any tendency to propagate the disease. The same exposure through the introduction and proximity of lepers that in some localities has sufficed to cause a rapidly extensive spread of leprosy in other places has never produced any appreciable effect injurious to the public health.

"During the past thirty years lepers have been received into our public hospitals, and some have been treated privately at their homes. No case of transmission of the disease from one person to another has been observed in the experience of your committee, and it has been comparatively large, nor, so far as known, has any case been reported by others.

"It would appear, therefore, that other conditions than that of mere proximity are essential before leprosy can be counted a contagious disease. What these other conditions are is unknown, whether they relate to location, soil, climate, food, mode or habits of life, but there is little doubt it is because of their absence that this and other similarly favored localties have thus far remained exempt from any prevalence of leprosy.

"Judging from long experience in the past, your committee is of the opinion that whatever prospective danger there may be from this source it is not such as to create alarm, and is certainly not imminent.

"In regions where the disease is apparently on the increase through the development of new cases, *not exotic*, it is a menace to the general community and segregation may be justifiable and proper. To adopt the principle of segregation here, and to apply it indiscriminately to all lepers would be unnecessarily arbitrary and, therefore unjustifiable. It would be on the part of the authorities who should carry it out, tantamount to proclaiming the existence of a serious danger to the community, when in reality the danger is slight, and such action would create an alarm that is unnecessary and add to the popular prejudice against the disease and its victims, that is already excessive. The indiscriminate enforcement of this measure would entail great and unnecessary injury upon many lepers, especially to such as are so circumstanced as to be independent of public charity. Moreover, there is reason to believe that in such cases confinement to a leprosary would cause the disease to pursue a less favorable course than if the patient were not deprived of his liberty.

"It is a question of expediency, which should be decided by our municipal authorities, whether indigent lepers dependent upon public charity should be granted the same privileges of the public institutions as are given to patients with other chronic infectious diseases, or should be assigned exclusively to an institution set apart for them.

"Inasmuch as lepers are not desirable additions to a community and are liable to become a public charge, your committee deems it expedient that the quarantine and immigration commissioners should exercise their authority as far as possible to exclude all such cases."

ARSENIC IN CIGARETTES.—Dr. William Murrell, in the *Medical Brief* for October, states that, from observing symptoms of chronic arsenical poisoning in some of his students who

were inveterate cigarette smokers, he was induced to undertake an examination of the outer wrapper in which cigarettes are sold. Seventeen different brands were examined, and the labels of six of these contained arsenic, not in minute traces, but in large and readily demonstrable quantities. There is a popular belief that green papers are more likely to contain arsenic than papers of other colors, but this is not the case. One well-known American firm, which puts up its cigarettes in wrappers of a vivid green color, evidently exercises care in this matter, for not a trace of arsenic was found. On the other hand, a tobacco put up in a bright green wrapper gave abundant indications of the presence of arsenic in the paper. Blue and buff wrappers are, as a rule, dangerous, and should be avoided.

PROPOSED MEDICAL INSPECTORS FOR PUBLIC SCHOOLS.

WE are indebted to Dr. George B. Fowler, Commissioner of Health of this city, for the reports of Inspectors of Public Schools, under which the Board of Health, by advice of their Sanitary Superintendent, proposes to appoint 150 physicians to inspect the children of these schools daily, with a view to the better control of contagious diseases.

There can be no doubt that this is a step in the right direction, providing it is ethically accomplished, and the service is not made offensive in any way.

The number of pupils in the public schools is stated to be 367,306, and in the parochial, 33,199.

We have carefully read the reports submitted; they are painstaking documents, and, we believe, truthful.

The experienced physician in the treatment of contagious diseases knows well the importance of an early diagnosis in such cases, not only as regards the infected, but also the dangers to others who may become so.

Laymen, especially in the lower walks of life, generally on account of ignorance, do not appreciate the gravity of allowing children ill with contagious diseases to associate with others. As a rule, they do not know how long a patient should be quarantined, but some do not care to be informed for fear of personal inconvenience. Sometimes no matter what you do to guard all concerned, some accident will occur by which exposure will result.

We recall a case in point which occurred some years since, when we had exercised every precaution in a scarlet fever patient. Notwithstanding most positive instructions to the contrary, the mother, who had attended the child throughout, without our knowledge took a full bath, changed all her clothing and called on a friend. The next day her friend was delivered of a child, and in a few days the mother was dead of scarlet fever! There was no doubt as to where the infection came from.

It is a difficult matter to make the lay mind realize these dangers, but it would be useful to have printed information covering important points connected with contagious diseases spread broadcast in the community. The first symptoms of the principal affections of this class, the time of incubation, the length of quarantine, and the principal precautions for saving others should be stated. Other points will no doubt suggest themselves on a full consideration of the subject.

The all-important question is how to accomplish this object with the least friction, and we believe our public-spirited, suave and politic Commissioner of Health will find the way to do it. The cordial co-operation of the profession is absolutely necessary, and the confidence of the community must be established and maintained.

Much will depend upon the conduct of the physicians who are to make the inspection. The opportunity must not be used for the purpose of gaining practice!

In a suspected case the Sanitary Superintendent may require a certificate from the attending physician, that he is in charge of the case, and not the Inspector of the Board. It may be necessary to prohibit an officer of the Board from attending any such case, in order to prevent possible conflict.

There are many other practical rules and precautions that will be suggested as the work goes on, and the bearings are reached.

Circular letters to the profession, inviting suggestions and co-operation, would lead to good-fellowship and more harmonious action. The profession should be encouraged to feel that each one is a guardian of the public health, and in a sort of ex-officio manner a member of the Health Department. More can be accomplished by a hearty and harmonious co-operation of the profession, guided by good, practical, just and reasonable regulations, than in any other way.

THE HOSPITAL AND DISPENSARY ABUSE.

DR. LANDON CARTER GRAY, in his inaugural address before the County Medical Society, discussed the subject of "The Hospital and Dispensary Abuse" in an elaborate, practical and broad minded manner, and concluded with

the statement "that prompt and just measures should be taken to regulate our medical charities," and recommended "that a special committee be appointed to obtain such facts about this subject as may be necessary to just conclusions, and that the results of this investigation be submitted to the entire Society for such action as it may think proper." The committee was to consist of one from each of the five medical schools, five on behalf of the profession at large, and the chairman.

The *Clinical Chronicle* thinks that the "physician's abuse of the dispensary is greater than the patient's abuse of it," and there is no doubt that there are many physicians who utilize this service for selfish ends. What must be thought of the physician who seeks this work only for his own purposes?

Men are crowding and jostling each other in the tussle to gain experience and patients through our eleemosynary institutions, and the strife is not only disgusting but immoral, as may be seen by reading an editorial report of "Dispensary Troubles" in a western city, as depicted in the Cincinnati *Lancet-Clinic*. The effects of such conduct are disastrous to all concerned. Our literature is full of complaints of these abuses, and the profession, as a whole, can find and apply a remedy if it will.

The conditions complained of are not confined to this country, for the London *Lancet* says:

There can be little doubt that the subject of hospital abuse is one of the greatest interest to the profession, and that the profession is mainly responsible for the evils complained of. We cannot go so far as to acquit the subscribers to hospitals who supply letters of admission or out-patient letters promiscuously to all who ask for them. The responsibility of the profession depends on this circumstance, that hospitals are essentially medical institutions. The whole machinery and purpose of them are medical. The staff of the hospital, so to speak, is the *deus ex machina*. Take that away and the hospital has no ground of appeal to the charitable public. The services of the staff are gratuitous, and surely the very least its members can be expected to demand as a condition of their services is that there shall be no abuse of the charity they administer, and that it be not spent on persons who can afford to meet their own medical wants.

Will the profession take the matter in hand, and deal with it in a practical manner?

DANGER OF GUAIACOL.—Guaiacol is very frequently and promiscuously recommended as a remedy for many common affections, but those who report its advantageous therapeutic action should not overlook its poisonous effects, says an exchange. Recently a physician suffering the twinges of a severe toothache applied two minims of pure guaiacol to the cavity and then covered the same with pledgets of cotton. Poisonous effects were noted in 15 minutes, and the immediate removal of the guaiacol alone prevented serious poisoning.

THOUGHT TOLD IN TRACINGS.

ALL matter in the universe, including the earth and the whole planetary system, it is believed, can be reduced to sixty-seven elements. Edison thinks that all these elements will, in time, be reduced to one primordial element, from which the laboratory of science will so far imitate that of Nature that by a different arrangement of the molecules of the primordial element matter can be combined into any form, including food and drink and the material for clothing. A distinguished scientist claims that the element of gold and silver is the same, the difference in the metals being the difference in the arrangement of molecules. Understanding the law it is easy to convert silver into gold. The wonderful development of the X-ray during the past year has opened our eyes to a new world and a line of thought which seems to unlock the secrets of creation itself. If it is a great feat to photograph through a solid substance, how much more miraculous it would be, how much nearer it would bring us to the verities of the spirit world to take pictures of thought, so that the line of reasoning leading up to some great discovery can be caught and imprisoned for ages. If the X-ray is magnetic and possessed by all living bodies, as is now generally believed, a plate might be made so sensitive as to photograph in perfect darkness. Mr. Emnner, of Washington, well known in the scientific world, reasoning from the fact that sight and hearing are caused by the vibrations of light and sound, formed the idea that the force of thought is something actual, which can exert a tangible power by similar vibrations, and that a machine could be constructed which would be as sensitive to the thought force as is the phonograph to the human voice. Mr. Emnner holds that the brain is a form of electric battery, ideas emanating from it just as do the rays from electricity, and that they penetrate the atmosphere, causing vibrations just as a tuning fork does when struck. Hypnotism, he explains, shows that one mind goes out and exerts a power on another, and that thought vibrations are transmitted just as

sound is from one person to another. If there is no entity in thought, how can we account for the magnetic force, hypnotic, we might almost call it, exerted by a public speaker upon a vast audience? The short, encouraging words of Napoleon to his army in sight of the Pyramids of Egypt: "Forty centuries look down upon you," made the mind of the army and the general one. Following out this line of thought, Mr. Emnner is constructing a machine, which, if successful, and it has already been to a certain extent, will lay bare the mind as beneath a microscope, recording each idea as it is given birth in the soul.

The machine is a cylinder, about six inches long and an inch and a half in diameter. It is coated with an exceedingly sensitive chemical, easily decomposed by the electric current. In front is a needle of aluminum, whose point is covered with another chemical. The needle rests on the cylinder, while its base is set in a diaphragm of aluminum, a very thin plate of the latter metal being used. In front is a somewhat fanlike arrangement, intended to convey the vibrations direct to the recorder. The machine is connected with an electric induction coil and run by means of a small motor, the thought impressions being transferred by the needle to the sensitive surface of the cylinder.

The person whose thoughts are to be read is seated about three feet in front of the machine, not in contact, and lets his mind pursue any train of ideas. The motor is set going, and in a few minutes the cylinder has done its work, leaving a fine tracing of vibrations, the result of the person's thought. A finer needle is substituted if the impressions are to be read, connected with the secondary induction coil, and wires leading from the electrodes are placed at the base of the brain of the reader. The ideas which have passed from the brain of the first person into the machine are now transmitted into the mind of the second person, the thoughts being received in an unconscious manner—that is, not by any sound or written word, but the conception simply frames itself just as when it was first given birth in the head of the owner. In experimenting with the X-ray Mr. Emnner believes he will be able to make actual photographs of thought—that is, he can picture its vibrations, just as those of light and sound are caught by the camera. The machine is placed about three feet from a person and on one side, about half way between them will be a camera, and just opposite the tube in which the X-ray is generated. The thought vibrations in passing from the person to the machine will naturally have to pass the space between the camera and the X-ray, and a photograph of these vibrations will be the result. The scientific world will look with great interest on the further development of Prof. Emnner's experiments.

NICOTINE.

EVERY physician is familiar with the tobacco heart, the tobacco throat, and the general effects of nicotine upon the digestion and the nervous system. Dr. Schall, the House Physician of the Hahnemann Hospital, wishing to test the effect of cigarettes upon the nervous system and the circulation, obtained through a mutual friend the consent of Miss Pauline Hall, a distinguished theatrical artist, to submit to the experiment. If, Dr. Schall reasoned, a person of the almost perfect symmetry of form and robust health of Miss Hall showed the effect of nicotine on the circulation from a few whiffs of a cigarette, what might be expected in persons of less vitality among her own sex?

In a quiet room in the Hahnemann Hospital, in the presence of two or three physicians, the sphygmograph was attached to the wrist and a tracing taken of the heart-beats. The tracing showed not one particle of variation from perfect health. The whole venous and arterial circulation was perfectly normal. At the end of fifteen minutes, after having smoked the half of two cigarettes, the tracings showed a manifest disturbance of the heart's action, and at the end of forty-five minutes, after parts of six cigarettes had been smoked, the tracing showed the beat of the heart to be unequal; at times rapid, at times in jumps, evidently under the effect of some powerful drug agent. From this fact alone may we not conclude that much of the neurasthenia, including a general disturbance of the digestive organs, now so common in that portion of the female sex who have ample means and leisure to indulge in any luxury agreeable to their taste, or which, for the time being, may contribute to their enjoyment, is due to narcotics, which should only be used medicinally?

BENDER HYGIENIC LABORATORY.

THE facilities for medical instruction in Albany have recently been immensely augmented by the erection of the Bender Hygienic Laboratory, dedicated and opened to the public on October 27th. The Park Commissioners contributed the land on which the building is erected, and the faculty of the Albany Medical College contributed their salary as teachers in the Medical College for the coming year for the purchase of

the scientific apparatus, which is abundant and of the most perfect character.

Dr. George Blumer, late of the Johns Hopkins University, is director of the Laboratory, and under his directions, the class-rooms, amphitheatre, etc., have been fully equipped with the necessary apparatus. Eighty-five microscopes, tables, lockers, thermometers, hot air and steam sterilizers, freezing apparatus, micrometers, etc., have been placed in the different departments. We congratulate the Albany Medical College, which has heretofore done excellent work, on the immense addition to their teaching facilities, which this well-equipped laboratory will furnish the college.

A NEW LABORATORY.

THE Board of Health has commenced the erection of a new building, three stories high, for an ambulance station and vaccine virus laboratory. The laboratory will be on the second floor. On the floor below this are two large apartments, one containing the stalls for cows and calves, seventeen in number, besides two box stalls. That portion intended for the ambulance department is in the form of an L, and takes up about a third of the main building. Ample provision is made in this department for the wagons, horses and sleeping apartments for the men. It is said the laboratory will be the finest in the world, surpassing those of Vienna, Paris and Berlin. Already in its limited space in Forty-fourth street, the vaccine virus corps has turned out the best vaccine in the world. It has a strength of 100 per cent., and lasts four months. There is no better laboratory work done in the world in any department than right here in this city.

CHLOROFORM IN LABOR.

THERE are still physicians who refuse their patients the anæsthesia of chloroform in childbirth. We heartily endorse the testimony of Dr. Earle in the *American Medico-Surgical Bulletin:*

1. That chloroform is safer in the parturient than in any other condition, which is enhanced by proper treatment.

2. It diminishes shock and destroys future dread, and therefore removes from childbirth one of its greatest terrors.

It does not affect the fœtus, and very seldom prolongs labor. That it produces uterine inertia, which is the greatest dread of those opposed to its use, is not borne out by facts.

OSTEOPATHY.

A NEW medical sect has risen in the West, under the leadership of Dr. A. T. Still, who claims that the sick can now be cured without medicine or surgery. It is claimed that most of the diseases are produced by some unnatural pressure upon a nerve or blood vessel. The physician must be such an expert anatomist as to be able to diagnose the precise point of the trouble, which is instantly relieved by the proper manipulation. Man is looked upon as a living engine. When all obstructions are removed and all the organs of this human machine are made to work without friction, Nature is ready to step in and bring health and strength. Like most other theories there is evidently here a small portion of truth to be utilized in the general work.

VACCINE VIRUS.

THE Health Department is furnishing to public institutions, free, and to all physicians at a small cost, a liquid vaccine which will keep at least three months and which is much more effective than other preparations of virus. The virus now used is so combined with glycerine as to resemble a syrupy, opaque, brown emulsion. It is put up in capillary tubes, containing enough for a single vaccination, and in vials of two sizes, one containing enough for ten vaccinations and the other for fifty. The skin is prepared in the usual way, and the virus discharged from the capillary tube by blowing out the contents with a rubber tube furnished for the purpose.

PARKE, DAVIS & CO.

THE retirement of Mr. George S. Davis from the firm of Parke, Davis & Co., one of the largest, most successful and scientific houses in the drug trade, of which he was for many years the manager, is announced. His place is to be supplied by Mr. William M. Warren, who is thoroughly familiar with his predecessor's methods, which have been so successful. We are confident under the new manager there will be no diminution of strength and energy.

LOCATION OF FOREIGN BODIES IN THE EYE WITH ROENTGEN RAYS.—Dr. Clark reported at a recent meeting of the American Opthalmological Society (*Druggists' Circular*) a case in which the presence of a small fragment of metal in the extreme angle of the anterior chamber and the iris, where it could not

be seen, had been determined by radiography. The sensitive plate had been introduced into the adjoining nostril, the patient being put under ether, and the rays directed upon it through the eye from the temporal side. He also suggested that the plate could be placed in the cocainized conjuctival sac, or an opening could be made in the conjunctiva and the small plate slipped behind it. He believed that this method of locating a foreign body in the eyeball was perfectly practicable, especially if the particle were lodged anteriorily, as in the ciliary region, where it could not be seen with the opthalmoscope. Dr. Williams reported a case in which a fragment of a copper case of a cartridge had passed through the cornea and lens. Nothing could be seen of it, and it was not certain that it was in the eye. The use of the X-rays showed the presence of the fragment, and it was removed. The radiograph was obtained with ten minutes' exposure by laying the patient's head with the side of the injured eye upon the plate and placing the Crookes tube above and rather in front of the patient's head.

INDICATIONS FOR THE INDUCTION OF ABORTION.—Dr. Jeffé (*Medicinische Neuigkeiten*), after a study of the literature of the last ten years fixes the indications for inducing abortion as follows: (1) Uncontrollable vomiting of pregnancy. (2) Incarceration of the gravid uterus. (3) Obstruction of the pelvic outlet by tumors or exudates. (4) Progressive and pernicious anæmia. (5) Grave chorea. Relative indications: (1) Great contraction of the pelvis with the conjugata vera below five centimetres. (2) Pulmonary emphysema, with signs of degeneration of the heart. (3) Nephritis, especially with eclampsia. (4) Chronic heart disease. (5) Other general diseases of the mother which would jeopardize her life at the time of delivery. The author holds that a conjugata vera of six centimetres and advanced pulmonary tuberculosis should not be regarded as indications for abortion, as it is not just to sacrifice a future life for one that is "certainly lost."

GARZIER finds great relief in influenza and its complications from seven to fifteen grains of lactophenin three or four times a day. Its action resembles that of phenacetine, with which it is closely allied, and which we have given in similar cases with great satisfaction, the radical of the former being lactic acid and that of the latter phenic acid. In neither drug have we ever found any disturbance of the heart's action.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

THE TENTH CONGRESS OF THE FRENCH SURGICAL ASSOCIATION.

In the Congress of this year two important questions constituted the order of the day, *viz.*: The treatment of club foot, and that of uterine prolapsus. Two remarkable reports, one from the pen of M. Forgue, upon the first question, and the other from M. Bouilly upon the second, have shown so perfectly the operations to be performed, and the indications for their performance, that the discussion, or rather the approval that followed the reading of them, offered but little of interest. The conclusions reached by MM. Forgue and Bouilly remain intact, and must be considered as firmly establishing the special therapeutic rules applying to club foot and uterine prolapsus. The supplementary sessions of the Congress presented additional interest. In special interesting communications the younger element of the Congress gave to the surgery of the future several bold novelties, indicating new methods to be pursued, and designating diseases that should be removed from medical impotence. Thus the Congress applauded the interesting reports of Chipault upon the surgery of the vertebral column, and of Doyen upon cranial surgery, and the new and perfect instrumentation that he has given to the arsenal of surgery. Jonesco, of Bucharest, reported remarkable success in his beautiful operations in splenectomy, and the resection of the cervical sympathetic nerves for epilepsy and exophthalmic goitre, the results of which reverse our knowledge of the physiological utility of the spleen and the great sympathetic.

During the last session of the Congress, the leaders of laparotomy, Terrier, Pozzi, Ricard, Delbet, Monprofit, etc., discussed and fixed the indications and the operative procedure of total abdominal hysterectomy. The methods are those of Doyen and Delagèniere combined, and practiced by some, slightly modified by others, and based upon the different procedures that have been utilized for two years past, with more permanent forceps, more ligatures, more vaginal manipulations, and every operation performed through the abdomen. Such are the principal points of the operative manual that received the largest amount of approval, and the results obtained by the various operators could not be surpassed, the statistics being without mortality. The substitution of abdominal for vaginal hysterectomy in all cases of fibroma appears to be definite. M. Pierre Delbet demonstrated equally that for the extirpation of the diseased annexæ laparotomy was far superior to the vaginal method, and by the operative procedure adopted by him, the suppression of ligatures, but separate ligatures of the vessels, suture of the peritoneum, and entire ablation of the tube, all the accidents that have heretofore appertained to laparotomy no longer occur. Vaginal hysterectomy is rapidly passing into disrepute also in the cure of annexal affections, and in this respect there is an immense difference between the present Congress and the preceding one.

Section of the Cervical Sympathetic in Grave Forms of Exophthalmic Goitre.—M. Abadie, of Paris, says it is certain that exophthalmic goitre is not produced by hyperthyroidization, but rather by a permanent condition of excitation of the vaso-dilator fibers of the cervical sympathetic. As a natural consequence, it is conceivable that the section of the cervical sympathetic ought to cure, or at least to cause the exophthalmos to disappear. Dr. Jaboulay has already practiced this operation successfully, and it is certain that we now have a sure method of cure of this terrible disease.

M. Jonesco, of Bucharest: I have practised in six cases the bilateral resection of the cervical sympathetic, twice for exophthalmic goitre, and four times for epilepsy. Jaboulay simply made a section of the nerve. I have thought it was better to resect the whole nerve, including the three ganglia. The operation is not difficult, and the nerve is easily recognized, and may as easily be dissected from the walls of the vessels, to which it often adheres.

Contrary to what physiology would lead us to suppose, no nervous trouble will follow the operation. My results are rather too recent to judge of their absolute value, but my epileptics have had no attacks since the operation.

Suture of the Lateral Sinus Torn by a Sequestrum.—M. Schwartz: There are a few cases known to science of the suture of large veins, made with a view of repairing their wounds while preserving their permeability. To effect the simple ligation of the vessel, when made aseptically, rarely gives rise to phlebitis or thrombosis, and I have never found it otherwise with veins of small or moderate calibre. But it is interesting to know that in cases of wounds of the large veins, when the ligature presents inconveniences, and tamponing is not possible; suture of the venous parietes may be practised with success. The application of the suture to the vena cava was practised by Schede when wounded by him in the course of a nephrectomy, also in the course of a trephining operation made for the purpose of extracting a sequestrum from the base of the cranium. The lateral sinus was wounded; tamponing being impracticable, I did not hesitate to suture the wound of the sinus, which was easily done in spite of the hemorrhage, and with perfect success.

BIOLOGICAL SOCIETY.

Agglutinative Reaction of Typhic Serum.—MM. Achard and Beusaude, by a series of observations, have determined: (1) That certain conditions of the bacillus of Eberth offer less resistance than others to the agglutinative reaction of typhic serum. (2) Certain bacillar types, very similar to the bacilli of Eberth, should be differentiated accordingly as they are affected by agglutinative reaction—paratyphic bacilli.

Resorption of Bile in the Liver.—M. Gley presented a communication by M. Wertheimer upon the above. His conclusions are that the lymphatics do not alone promote absorption, but that the blood vessels play an important role also in that function.

Intra-Rectal Injections of Salt Water.—M. Mitour said that he replaced subcutaneous injections of salt water, which are frequently badly sustained, by intra-rectal injections.

Artificial Respiration for Pulmonary Insufficiency in Certain Intrathoracic Operations.—MM. Tuffier and Hallion: Access to the mediastinum and the thoracic organs would become easy if we could open the pleural cavity, meanwhile maintaining the physiological condition of the lung. The researches which we communicate to you tend to permit the invasion of the intrathoracic organs by the transpleural method without causing pneumothorax. As yet these are experimental facts in the technique of physiology, and subject to investigation as respects their application to man. In order to avoid pneumothorax on opening the pleura, and to cause it to disappear instantly if it should occur, and if the pleura is open, it is only necessary to insufflate the lung by the larynx or trachea. If at the moment of opening the serous membrane the insufflation be practiced, the organ, distended by the pressure of the air, does not change its position. Moreover, if a pneumothorax be occasioned by a pleuro-parietal opening, and without wounding the lung, the closing of the parietal wound and the aspiration, will diminish the quantity of air contained in the pleura. The tracheal insufflation will also cause it to disappear, by re-applying the pulmonary surface to the parietal pleura, and suturing the wound before the insufflation ceases. Our experiments, which have been repeated seven times, prove this, and we shall describe only the general method, the principle of which is the laryngo-tracheal tubage. A dog being chloroformed, a long copper tube connected with an insufflating apparatus is introduced into the trachea by the mouth. Artificial respiration being established, next follows an incision of an intercostal space, which is widely opened. The pleural cavity exposed to view by a bright light, becomes sufficiently accessible to permit different experiments and observations of the œsophagus, the great sympathetic and the pneumogastric, etc. Many of the animals treated in this manner have survived for months without any trouble caused by the operation, an important fact. But we should inquire whether the insufflation, while effectually supplying the place of normal respiration, may not change the conditions of the pulmonary circulation to such a degree as to produce serious disorders and cause danger. Our researches upon this point, the details of which we give, prove that this is not so. Certain incisions particularly facilitate these intra-thoracic researches by permitting us to reach the mediastinum, at least in the dog. Thus two symmetrical intercostal spaces may be incised and reunited by a transverse section of the sternum, or by sawing longitudinally the sternum through its whole length, and separating the two halves. The application of these facts to surgery can only be made where the pulmonary insufflation through the larynx is easily effected and harmless. One of us has constructed and experimented with a laryngeal canula which, among other advantages for other operations, will also permit the direct insufflation of the lung in transpleural operations.

Rectal Prolapsus.—M. Schwartz reported the case of a woman of fifty-two years affected with rectal prolapsus. There was total anal atony and incontinence of fæcal matter. Marchant's operation was performed, that is to say, the coccyx was resected, the rectum denuded, and a series of threads was passed through the rectal walls, tied together, in order to diminish its calibre, and it was fixed to the sacrum by several other threads. The operation was completed by a perineorraphy before and behind the anus, and the cautery igneous applied to the anal mucous membrane. The sphincter became continent and has so remained.

Surgical Treatment of the Intestinal Perforations of Typhoid Fever.—M. Monod: I recently operated upon a patient affected with typhoid fever, in whom an intestinal perforation of several hours' duration was diagnosed. The peritoneal cavity was filled with a sero-purulent fluid, and a perforation was easily found through which water flowed abundantly. The cavity was thoroughly cleansed with sterilized water, and the perforation closed with drainage. The patient died forty-eight hours after from peritonitis, and the suture was found to be perfectly firm and complete. The first operation for this occurred in Leyden, 1882, and since then there have been thirty-two operations and five pretended cures, but two undoubted cures were obtained by Hook and Ablnay. These two are sufficient to justify laparotomy in typhoid perforations, and they afford the hope of cure in desperate cases. As respects the mode of operating, I favor median laparotomy. Others have employed the lateral. The sutures should be made in the healthy tissue, and not in Peyer's patches. It may be useful to make a resection of an intestinal fold, or establish an artificial anus, according to circumstances; drainage is imperative.

M. Routier: I have operated for a double perforation in the course of a typhoid fever, at the ninth day. The patient lived ten days, and died of a new perforation. The perforations occur at two different periods, at the beginning and the end of the disease, and I believe that intervention will be more frequently crowned with success during convalescence than at the beginning.

M. Hartmann presented a pregnant woman upon whom laparatomy had been performed for symptoms of general peritonitis, and by which he removed a salpyngitis with a twisted pedicle, the cause of the trouble, without any interruption to the pregnancy.

M. Rochard presented a case of resection of the cæcum. Murphy's button was used to secure antero-anastomosis.

M. Tuffier exhibited a very large calculus of the kidney that had never caused pain, and whose presence was revealed by an attack of anuria.

MEDICAL SOCIETY OF THE HOSPITALS.

Dermo and Neuro Fibromatose.—M. Chauffard: Fibromatose of the skin with pigmentary spots have been described, but there exists also a class of fibromatoses of nervous origin, one case of which I have seen. The anatomical specimen which I present, was taken from a patient who, among other troubles, experienced violent pains in the abdomen. The supra-renal capsules were greatly hypertrophied, especially the right,

and there was a retro-capsular hematic cyst. There is no analogy between this condition of the capsules, and that which is seen in Addison's disease; it is rather of an adenomatous character. The pancreas is very large, and cancerous in appearance. There was no icterus during life, as the choledochus passed beyond the pancreas, and the trunk of the left sympathetic was compressed.

Psychic Troubles in a Child Following Dothimenteritis.—M. Comby: These, though frequent in the adult, are rare in children. In a child of three years, after the subsidence of the fever of an ordinary typhoid, there was delirium, leaping out of bed, no recognition of parents. This condition lasted for eight days, and terminated in complete cure. There was no hereditary nervousness. Dr. Adams cited four analogous cases in which there was melancholy and sometimes delirium. The prognosis is not grave.

Subcutaneous Emphysema in a Family.—M. Galliard: I received from a physician of Cuba a report of three cases of emphysema in three sisters affected with rougeola. In all of them dyspnœic symptoms, with emphysema of the neck, were observed a few days after the commencement of the disease. There had been no indications of bronchitis previously. The father alone was asthmatic, and there seemed to be a congenital and peculiar fragility of the pulmonary parenchyma.

Lingual Hemiatrophy.—M. Babinski communicated a report of a case of lingual hemiatrophy. When the mouth was widely opened, the tongue was turned backwards with the point directed to the healthy side, but when it protruded from the mouth, it deviated to the side that was diseased.

Phlebitis of the Cavernous Sinuses.—MM. Deguy and Resibois reported the case of a patient who had presented all the symptoms of tubercular meningitis. The autopsy revealed the evidences of pulmonary congestion, and also of double phlebitis of the cavernous sinuses. They were filled with a blackish fluid containing streptococci and Pfeiffer's bacilli. There was no alteration of the meninges.

SOCIETY OF HYPNOLOGY AND PSYCHOLOGY.

The Civil Capacity of Morphinomaniacs.—M. Berillon: A recent civil process presents for consideration by the Society the following question: Should morphinomaniacs, by reason of their morbid habit, be considered as incapable of giving proof as to whether they are, or are not of sound mind (*sains d'esprit*), to use the expression of the "Penal Code"?

M. H. Lemesle said chronic morphinism presents phases and degrees variable according to the resistance of the subjects and the doses employed, and which admits of their being classed as morphinomaniacs in very different categories as respects their mental condition. There are periods in which they are absolutely irresponsible, and others in which they are perfectly *sains d'esprit*, of sound mind.

M. A. Voisin: It is with morphine as it is with quinine and strychine. Those patients in whom it is indicated, bear large doses without risk; morphinism only occurs from the abuse or irrational use of the drug.

M. P. Valentin: Morphinic dipsomania may be likened to alcoholic dipsomania; in each case it is the idiosyncrasy of the subject that creates the peril; the morphinomaniac does not become so voluntarily, he must be predisposed.

M. Dumontpaller: One thing is necessary to establish the "civil capacity" of a morphinomaniac, and it is a certificate of mental alienation. There is no evidence that madness is more frequent in morphinomaniacs than in other neuropaths addicted to morbid habits of the same kind. In all cases there is no identity between madness and morphinomania.

Lesions of the Cells of the Central Nervous System by Experimental Addisonian Poisoning: Decapsulation.—MM. Ettlenger and Nageotte: Following extirpation of the two suprarenal capsules, death constantly occurred in animals, with paralytic symptoms. Abelous and Langlois have demonstrated that there is an auto-poisoning. The employment of new histological methods shows the existence of intense lesions of the nerve cells. These lesions consist of: (1) Alterations of the chromatophilar substance of the protoplasm, which ferments and is reduced to dust. (2) Of the achromatic substance, which presents fissures in the central regions, with general tumefaction and thickening of the protoplasmic prolongations. The cells of the whole cerebro-spinal axis are altered (cerebrum, cerebellum and medulla). It is entirely legitimate to establish a relation between these lesions and the nervous symptoms of Addisonian poisoning.

Washing of the Blood.—M. Roger cited experiments by injections of artificial serum, which caused the disappearance of large quantities of the coloring matter of the blood. In animals that had not received the injection the coloring matter persisted for an indefinite length of time.

J. A. C.

BIBLIOGRAPHICAL.

THE *American Medico-Surgical Bulletin* will hereafter be published as a semi-monthly.

THE *Century* for January is more than usually rich in its illustrations, while the literary department is of rare excellence, especially in history.

THE *Literary Digest* is an epitome of the current literature of the world, as expressed in magazines and newspaper editorials, edited with unsurpassed intelligence and ability and issued every week at $3 a year. Funk & Wagnalls Co., the publishers of the "Standard Dictionary," offer to the profession, to every subscriber of the *Literary Digest*, a copy, *free*, of "Historical Lights," containing over 6,000 historical articles illustrating nearly 20,000 topics, published at $6.50. The movement is a business one, to introduce to the profession the *Literary Digest*, a journal of such excellence that it will become a permanency in any family into which it once finds an entrance.

THE January *Arena* is the most interesting number that has appeared in many months. It is of special interest to legislative bodies, physicians and lawyers on account of the article on "A Court of Medicine and Surgery," written by A. B. Choate, the prominent lawyer, at the request of leading physicians. Mr. Choate intends to inaugurate a movement which it is believed by some of the ablest lawyers and physicians will be of as vital importance to medicine and surgery, as well as to the public, as was the movement that resulted in the establishment of trial by jury to the public and to the legal profession. This is the opening shot of a campaign that will be waged from the *Arena's* pages by leading physicians, surgeons and jurists in the near future, and that will be carried before the Legislature in Minnesota and elsewhere this winter.

A MONOGRAPH ON DISEASES OF THE NOSE AND THROAT. By George H. Quay, M.D., Cleveland Medical College. Boericke & Tafel, 1897.

This little volume is the work of a practical teacher, and full of suggestions in diagnosis and treatment of great practical value. We cordially commend it to the student and to the profession.

THE PRINCIPLES OF MEDICINE. An Introduction to the Study of Special Pathology. A Text-Book for Students; Being a Course of Lectures Delivered to the Classes of the Cleveland University of Medicine and Surgery. By E. R. Eggleston, M. D., Professor of Theory and Practice in the Cleveland, O., University of Medicine and Surgery, etc.; pp. 128; 12mo. Price, $1.

This little book is presented with a view to the abolition of didactic teaching in medical schools, and it is intended for junior students to this end.

The text is simple, concisely stated, and will answer its purpose well, leading up to the more complete work in course of preparation.

OPHTHALMIC OPERATIONS AS PRACTISED ON ANIMALS' EYES. By Clarence A. Veasey, A.M., M.D., Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic; Chief Clinical Assistant to the Ophthalmological Department, Jefferson Medical College Hospital; Consulting Ophthalmologist, Philadelphia Lying-in-Charity, etc. With fifty-six illustrations. Philadelphia: The Edwards & Docker Co., 1896. Price, $1; pp. 100; 12mo.

This little book has been prepared for those beginning the study of this specialty, to enable them to become familiar with the technique of the various operative procedures through practice upon animals.

The text is well illustrated.

REFERENCE BOOK OF PRACTICAL THERAPEUTICS. By various authors. Edited by Frank P. Foster, M.D. In two large volumes. Sold only by subscription. D. Appleton & Co., New York, 1897.

The editor's long connection with the medical press, notably as editor of the "Encyclopædic Medical Dictionary" and the *New York Medical Journal*, one of the most scholarly of our medical journals, has naturally brought him in close contact with the leading specialists and the most practical minds in our profession throughout the world. This knowledge Dr. Foster has utilized with the judgment of the skilled editor in selecting the writers of his new work.

The work is one of therapeutics, in which the word has a broader meaning than the simple preparation and administering of drugs. Drugs are discussed from the standpoint of their physiological and their *dual* action, and therefore cover the ground, to a certain extent, of the old and new schools of medicine. The therapeutics of electricity, of water, of massage and the general care of the system through fresh air, exercise and alimentation are intelligently presented. In a word it is a system of therapeutics which appeals to the physician of every school, and covers as nearly as possible at the present time the leading ideas of thoughtful men in our profession throughout the world.

"While the work was passing through the compositor's hands, the great subject of serum treatment came prominently before the profession, hence the articles relating to that and to the allied subjects of the medical employment of animal extracts and juices, have been so written as to convey to the reader a picture of the actual state of our knowledge with regard to those matters, and without reference to speculation as to what may be accomplished in the future." The work is in every sense worthy of hearty commendation.

SYSTEM OF DISEASES OF THE EYE. By American, British, Dutch, French, German and Spanish Authors. Edited by William F. Norris, A. M, M. D., and Charles A. Oliver, A. M., M. D., of Philadelphia, Pa., U. S. A. Volume I., Embryology, Anatomy and Physiology of the Eye. With twenty-three full page plates and text illustrations. Philadelphia: J. B. Lippincott Co., 1897; pp. 670; octavo. In four volumes, cloth, $20. By subscription only.

This work is the first of its class in our tongue, and it embraces, so far as possible, the most advanced theoretical and practical views upon its subject. There are over fifty contributors to the "System," selected from all parts of the world, and they are men of the highest standing in this specialty.

The volume before us includes a careful consideration of embryology, the development of the organ and its general anatomy. It is claimed, and we think justly, that this effort covers the most careful study of the visual apparatus beyond its entrance into the cranial cavity extant. Then follows a succinct and fully illustrated description of the congenital malformations and abnormalities. The subject of optics is graphically treated, in order to make the physiology comprehensible, while the associated and more complex relations arising from the presence of two similar and interrelated organs are then taken up.

In the study of color-perception we find a thoroughly practical article upon the photo-chemistry of the retina, based upon the most advanced thought and some of the newer theories. The illustrations, for the most part, are excellent; the text is in excellent English and readable.

It has been the intention of the editors to make the work take rank in the English-speaking world with the "Hand Buch" of Graefe and Seamisch in German, and "Traité Complet" of de Wecker and Landoll in French.

It will not only prove of service to ophthalmologists and special students, but to the profession at large.

The publishers have done their part, as might be expected from their well-known character.

CORRESPONDENCE.

To the Editors of THE MEDICAL TIMES:

DEAR SIRS: The following words from a most just and self-sacrificing as well as learned clergyman may be of interest. Speaking of Dr. Morgan's article in the MEDICAL TIMES, of July, he says:

"The 'Morgan Talk With Young Men' is a very true and fair statement on a much misunderstood topic. The conclusion, however, as to the human mind, was altogether unwarranted by anything that was stated in the paper. If the doctor had confined himself to the physical, and not drawn sweeping conclusions as to the nature of the soul, from the manifestation of its merely animal powers, he would have done well." G.

To the Editors of THE MEDICAL TIMES:

In your December number I noticed an abstract from my article on diphtheria published in *Pedriatics*, in which the word "seen" is omitted.

The point which I wished to make clear was the *fact* of *recovery* under the condition stated, and not the time.

The paragraph as it appeared in *Pedriatics* is as follows:

"From the standpoint of a general practitioner I confidently expect to cure any case of diphtheria in private practice seen within forty-eight hours of the onset of the disease."

Yours truly,

W. A. WALKER, M. D.

57 West Ninety-third Street, December 8, 1896.

THE HYGIENE OF BICYCLING.

To the Editors of THE MEDICAL TIMES:

The influence which the use of the bicycle has excited in modern society is truly remarkable. It has become an actual necessity; it has passed beyond the stage of a mere luxury, and has largely taken the place of the horse in the daily occupation of man.

It is not necessary to trace its development from the celeripied of 1816 to the superb machine of 1896.

The literature concerning the bicycle would fill countless volumes. Very much which is untrue has been said in favor of it, and a great deal which is true is spoken against it by those who ought to be able to judge. That there is some serious fault with bicycling there can be no doubt. There are occasions when even men should forego its use, but there are many more times when it should be absolutely forbidden to women.

If we make a selection of the standard bicycles of the day, we should find them, as it would appear, almost perfect in construction, and yet what a marked difference exists between the numerous specimens of the mechanic art!

There is one feature in the bicycle which does not seem to differ very much, unless it be that one is more harmful than the other. I refer to the saddle. With all the testimony which physicians have so willingly given in favor of the "wheel," a very general unanimity of opinion exists in condemning the saddle as it is now constructed. Upon most of the bicycles which I have seen it is an ugly-looking, pear-shaped conglomeration of leather and iron, which has apparently received little, if any, attention by the

manufacturers. While most consummate skill has been lavished on the machinery of the 'cycle, the seat is the same irrational, health-destroying blight upon bicycle riding which it has ever been.

Every soldier knows what the result would be if the saddle of the cavalryman was not properly constructed. No matter how excellent the horse may be, or how drilled the rider, if the saddle is wrong, the usefulness of the cavalryman is interfered with at once.

Now, we have in the bicycle, in the majority of cases, a condition of things, owing to the faulty construction of the saddles, which is especially liable to induce a certain class of diseases in men, women and children. The antero-posterior diameter of the saddle is altogether too long, the ridge running from the antero to the posterior of the saddle is too sharp.

These defects have received very earnest attention from some of our best writers, and it is more than likely that very much more will be written on this subject. The evil effects of bicycle riding are attracting considerable attention. The cause for it all is to be found in the faulty saddle; this is beyond a peradventure.

In a recent article published by Dr. Garrigues in the *Forum*, concerning "Women and the Bicycle," he speaks of the three different positions in use by the bicyclist—the upright, the curved, and the bent. In the upright posture the spinal column is kept straight, the shoulders are thrown back, and the weight of the body rests on the saddle. This posture is by far the best from a hygienic and medical standpoint.

Dr. Garrigues condemns the second and third positions, but even the erect position upon one of the ordinary saddles is likely to be followed by harm. Already we have cases suffering from severe pain on account of the strain, we have variocele, we have varix, or enlarged veins of the leg, we have serious prostatic diseases and injuries, hemorrhoids, and it is claimed that even appendicitis often originates from this cause.

If we find these ailments in men, how much more serious are the injuries produced in women?

The peak, or the anterior projection of the saddle, is unreasonably long, and presses upon the external portions of the genital organs of a woman in such a way as to produce serious injury.

In a recent paper, Dr. F. J. Groner has very ably explained the injurious effects of an unproperly made bicycle seat. He recognizes the fact, which other observers have condemned, that the present bicycle seat is too narrow, and constructed on erroneous principles, and is capable of doing a vast amount of injury to those who ride upon it.

A majority of the patients who have come to consult me concerning bicycle riding have been women.

While very much attention has been given to dress, and what is or ought to be the proper fashion for bicycle riders, very little attention has been given to the seat. Those girls and women who ride make the best of the conditions they find, and while they admit that much benefit and pleasure can be derived from exercise in the open air, they condemn without reserve the injurious effects of the common bicycle saddle.

One young woman informed me that the excitement caused by the peak of the saddle on the external genital organs was of such a severe character that she had been compelled to frequently spring from the bicycle and hold firmly to the handles in her efforts to control the excitement produced.

Three of my patients have been obliged to give up bicycle riding altogether on this account. The fourth has been obliged to abandon the wheel because the pressure of the peak of the saddle on the external genitals produced a numbness which was simply intolerable.

I have known of cases where young girls first became aware of sexual excitement through bicycle riding. In several instances, sexual excitement which has been created in this manner has led to the most serious and unhappy results.

One young lady of my acquaintance has been so disturbed and distressed by her own experience that she cannot contemplate a young lady upon a bicycle without the keenest sense of regret.

Now in each case there was nothing morbid about these young patients; they were virtuous girls, who were merely shocked at the revelations which had come to them through the use of the wheel. They had been well bred, in virtuous homes, surrounded by every influence for good which New England character and training could afford them. They had no leaning towards the popular novels of the day, and their associations were all correct and normal. And yet, there is given to them this "machine of the devil," as it has been termed, under the guise of a gift for the promotion of health, which has awakened their sexual knowledge and caused them mortification, sorrow and disgust.

I will not attempt to further discuss in this short paper the good or the evil effects of bicycle riding for men or women. This has been ably done by Dr. Garrigues, in the *Forum* of January of this year, but I merely wish to say that I believe that most of these evil effects which occur in men and women are to be attributed to the miserable saddles more than to any other cause.

The ordinary saddle is decidedly injurious. A practical, sensible saddle, constructed on anatomical principles, is an urgent necessity. In conclusion, I would suggest that those who would like to study cycling from the standpoint of the general practitioner, should refer to the admirable paper of Dr. F. Lydston Newman, of Detroit, in the *Annals of Gynæcology*, in December, 1895.

The celebrated scientist, Sir Benjamin Ward Richardson, of England, recognizes the dangers of cycling, and his paper in the *Dietetic & Hygienic Gazette*, of September, 1895, is one of great value. The dangers which he points out can be greatly obviated, if not wholly removed, by a practical, hygienic saddle.

Therefore, the accomplishment of this important work, which will be the means of saving the health of thousands of riders, is one which most decidedly deserves public recognition and approval.

W. THORNTON PARKER, M.D.

Groveland, Mass., December, 1896.

THE ANGINA THAT KILLS.

Under the above title, Dr. B. S. Arnulphy has a valuable paper in the *Medical Era* for November. Its object, he says, is two-fold. "*First:* To arrive at an understanding as to what we mean by the term *angina pectoris; Second:* Briefly to indicate the therapeutic means susceptible of a definite curative or preventive action in the management of that redoubtable affection.

"*There is only one true kind of angina pectoris;* and this we find to be always associated with and to have its anatomical seat in: First: A lesion of the aorta, near the coronary arteries; Second: A lesion of the coronaries, with or without aortitis, lesion characterized by more or less stenosis; hence *cardiac ischemia.*

"All other painful manifestations centering around the cardiac region must be considered as being purely neuralgic affections of the cardiac or pericardiac nerves.

"In all forms of angina-like seizure that do not arise from organic obstruction of the coronaries, precordial pain is the main element, the all-engrossing consideration.

"Not so, however, with true coronary angina, with the angina that kills. Here the amount of pain, so to speak, is but of 'secondary importance.' It is the peculiar character of the pain that ought to arrest our attention. The heart, whose blood-supply is suddenly curtailed by coronary obstruction, whose muscular frame writhes under the grasp of a lengthy spasm comparable to the contraction of the unstriped fiber, that heart utters a cry of distress wherein we recognize a mental element of anguish and agony that is peculiar and unique, *that is wanting in any other form of visceral pain,* no matter how deep and special. It seems as if the very sources of life were being exhausted.

"The proof of this is that the painful element proper is sometimes quite inconsiderable in true angina, but the peculiar anxious feeling, fraught with an unspeakable sense of impending death, is never absent."

The distinctive characters by which we can discriminate

with a certain degree of accuracy between organic and functional angina, between the fatal and the benign variety, are thus described:

"First: We have the great clinical fact that arterio-sclerosis, more or less generalized, lies at the back of most cases of true angina; itself an offspring of the arthritic diathesis, so widely diffused in our western world.

"In a minor key we may also incriminate syphilis, and some toxic agents, such as tobacco, alcohol, lead, etc., as etological factors of arterio-sclerosis.

"It is an undeniable fact that the vast majority of the true angina patients are *aortic sufferers*, whereas the alterations of the mitral valve, however extensive, hardly play any part in the history of angina.

"An attack of true angina is almost invariably attended with high arterial tension, whereas pseudo-angina is observed concurrently with low tension."

Hence we may map out the following sequence: "Constitutional or toxic cause; high tension; arterio-sclerosis; aortitis; atheroma; coronaries involved; angina."

The ensuing rules are also formulated:

"1. Any spell of more or less pronounced cardiac pain, resulting from an effort, and attended by a dread of impending death, is a *true angina*.

"2. Any spell of cardiac pain arising spontaneously is a *false angina*.

"Our patient will frequently die from the former, hardly ever from the latter variety. There is one exception to this rule, however. I refer to the cases *in which the spells will develop spontaneously during the night.*

"Such is the fate of those persons who go to bed apparently in blooming health, and are found dead in the morning. Such was the fate of Charcot and of many illustrious men.

"It is a fact that some angina patients have an instinctive repulsion to the recumbent position; most of them feel better in the erect attitude, which diminishes arterial tension.

"Therefore angina patients, as a rule, should not sleep with the head lying low."

Here is "a very reliable diagnostic point" that the author has verified. "As soon as the attack is over, those very parts of the thoracic walls that were so painful a moment ago are now painless. The pain has disappeared as if by magic. This shows that there is no *neuralgic* element in true angina." As a corollary he formulates another rule: "Pains provoked by pressure over the cardiac region do not pertain to true angina."

An important point, and one too little known, is this: "It frequently happens that during an attack the radial pulse on the *left side* is weak, small and concentrated, while it remains normal on the right side. The interest of the phenomenon lies in this fact, that it may precede a seizure for many days. Of course, before granting this sign, when discovered, any other significance, we should endeavor to eliminate the hypothesis of aneurism of the arch of the aorta. But this can easily be accomplished."

We may also derive some information from the behavior of the heart during an attack. "This organ is most of the time apparently unaffected. Its pace, its rhythm, remain undisturbed. It is quite otherwise in pseudo-angina.

"Whenever we are confronted by a patient who has had one or more painful seizures about the precordial region, especially if there was irradiation along the left arm, we should make a careful examination of the aorta and peripheral arteries.

"We should note whether there is any dilatation of the aorta, any systolic murmur developed along the arch, or any sensitiveness exhibited by bi-manual pressure over the upper part of the thorax. This is an excellent sign, that will many times set the investigator on the right path.

"The elevation of the subclavian arteries is also a valuable sign, pointing to arterio-sclerosis of the aorta and neighboring arteries.

"All signs of peripheral atheroma, especially of the radial and temporal arteries, should be carefully scanned. Last, but not least, the manifestations of habitual arterial hypertension ought to excite our suspicion, particularly in the case of those persons who have not yet had a complete seizure, but have been complaining for some time of discomfort around the heart after exertion. The clinical evidence of hypertension we find in hard pulse, frequent headache, attended by depression of spirits and scant urine.

"We should also remember, in that connection, that while valvular lesions of the heart are not transmitted by direct heredity, arterial lesions are hereditary. Therefore the family history of those suspicious cases ought to be conscientiously probed."

In concluding this branch of the subject, attention is called to "those deceptive forms of true angina in which there is a great deal of epigastric pain, with or without gastric disturbance. Many such cases are on record, the true nature of which was only unravelled by the sudden death of the sufferer."

"Can *true angina* be cured?" Dr. Arnulphy is inclined to answer in the affirmative.

Treatment of the seizure itself is mostly of a palliative character. In the line of a curative and preventive means, he gives decided preference to the iodides, and especially iodide of strontium. "This salt must be taken steadily for a long period of time in order to obtain decisive results. Thus administered, the effects are most satisfactory."

"Then we have two drugs, plumbum and tabacum, both able not only to raise arterial tension, but also to bring about the typical lesion of arterio-sclerosis."

"There is a strong argument in favor of plumbum. It is perhaps our best remedy in lithemia, especially when supported by sulphur. But it were idle to try to cope with such conditions as lithemia or uricacidemia by dint of remedies alone. We all recognize that. We know that diet, environment and exercise are the true therapeutic factors in those affections.

"Now, why not apply these same hygienic and prophylactic principles to the cure and prevention of angina pectoris, when we come to reflect that this fearful syndrom ultimately rests, according to all clinical probabilities, *upon a broad basis of arthritism?* Why not realize that nowhere does the axiom, 'prevention is better than cure,' apply more forcibly than in the case of a disease that selects its victim in silence and strikes him down with the suddenness of a clap of thunder in a clear sky?"

The author is strongly of opinion "that our ideas of diet are sadly perverted, and that the astounding abuse that is being made of butcher meat and animal fat at large in this country and abroad is the fruitful source of many terrible consequences for the human race, of which angina pectoris is only one of the most conspicuous and fulgurating aspects."

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York.

Sea Water and Menstruation.—Dr. Houzel (*Ann. de Gynec.*) has published a series of statistics on menstruation in fishwomen on the French coast. They lead a hard life, and are ill-fed. They spend a great part of the year shrimping, which involves immersion for hours in sea water, often above the waist. They walk about in their wet clothes afterward, selling their shrimps. In winter they pick mussels out of rock pools at ebb tide, and return to town carrying baskets full of the mollusks, dripping over their clothes, the water sometimes freezing as it falls. All the 123 fisherwomen interrogated by Houzel insisted that the catamenia were always easier when they were actively at work at their calling. Some found that the period became painful or scanty when they led a temporarily dry life, and returned to its normal state when once more they walked in the sea to earn their bread. Puberty comes on rather earlier than in landswomen, the menopause later, and their fertility is markedly high. In

short, fishwomen are strong, and their period is retained at a normal point more steadily than is the case with other women. Houzel, however, sees a direct relation between the immersions and the normal catamenia. He notes that lady visitors, after a few days' acclimatization, find that sea bathing is excellent for regulating the catamenia.

Erodium as a Hemostatic.—L. V. Komorovitch (*Vratch; British Medical Journal*), points to the powerful hemostatic effects of the *Erodium cicutarium* (hemlock stork's bill) in cases of metrorrhagia and menorrhagia. He tried this Russian popular remedy in twenty-three cases, in twenty of which floodings were caused by metritis, in one by myoma, in one by cervical polypus, and in one by abortion. The remedy was always given internally in the form of a decoction (½ ounce of the herb to 6 ounces of water), a tablespoonful every two hours. In all the patients the symptoms quickly subsided, even in those who had been previously treated by ergot and hydrastis canadensis without success. No accessory phenomena were ever observed, although in some cases the administration continued for several weeks. The erodium seems to exercise a direct tonic influence on the uterine muscular tissue, the organ growing distinctly firmer during the administration. In the case of cervical polypus the latter was found lying free in the vagina after two days' use of the decoction.

Sugar for Chronic Ulcers of the Leg.—Dr. Chauffard treats chronic ulcers of the legs by covering them thickly with powdered sugar, retaining it in position by means of proper dressing. The application is first made every day, then every other day, and later at longer periods, until the ulcer is healed.

Operative vs. Medicinal Treatment of Graves' Disease.—From a careful study of the literature of Graves' disease, Dr. Kinnicutt (*Medical Record*) concludes that more rapid and greater benefit in a larger number of cases occurs through operative than under medicinal treatment. On the other hand the high mortality rate up to the present time of the surgical treatment of Graves' disease must exclude it as a routine measure. It should be employed only when all therapeutic measures have been fairly tried and have failed. The class of cases in which surgical treatment would seem especially advisable or indicated are those of not too long duration and with symptoms sufficiently severe to produce disability.

The Pain-Relieving Properties of Guaiacol.—At a recent meeting of the Academy of Medicine of Paris (*Therapeutic Gazette*), Farrand made a report upon the researches of Pise, on the application of compresses of guaiacol for the relief of painful points underlying the skin. It is his custom to wet a compress with from fifteen drops to one drachm of guaiacol, apply it to the part affected by pain, and bind it on with a gauze bandage. Not only is the pain thereupon markedly decreased, but anæsthesia is so complete that minor surgical operations can be performed upon the part. It is absolutely necessary that the guaiacol should be pure. If left too long in contact with the skin and used in very large amount, it may produce a fall of temperature, and symptoms of collapse.

Carburet of Lime in Cancer.—Dr. Guinard, of the Academy of Medicine, has for the last three months been experimenting with carburet of lime in inoperable cases of cancer of the vagina and cervix uteri. Taking a piece of carburet of lime of about the size of a small nut, he introduces it into the vagina, and places it in immediate contact with the diseased parts. At once the formation of acetylene gas is begun, this preparation possessing the property of being transformed by contact with water into oxide of calcium and acetylene. The vagina is rapidly filled with iodoform gauze, and four days later the latter is removed. For three to four hours after the introduction of the carburet of lime a burning sensation is experienced by the patient, but this rapidly disappears. When the vagina is opened by removal of the gauze, an antiseptic injection is given, and the fragments of oxide of calcium removed.

Dr. Guinard's experience has been that three symptoms of cancer are relieved by this treatment, namely: Hemorrhage, fetid discharges, and pain. A smooth surface of grayish aspect is left after the application.

The treatment has this advantage—that it may be undertaken by any physician, requiring neither assistants nor special instruction.

Local Treatment of Carbuncle.—Dr. Richardson, in the *Lancet*, states that moist cane sugar ("foots") spread over the surface of a hot linseed meal poultice, and repeated several times daily, quickly softens the hard, brawny, inflamed tissue, causes free discharge and facilitates the healing process. He has treated several cases in this simple manner most successfully, and since adopting it has not resorted to any cutting operation.

Raising the Pelvis for Incontinence of Urine.—Dr. M. J. Stumpf (*Gazette Des Hopitaux*) employs the following method with favorable results: During sleep raise the pelvis of the child so as to form an angle of from 130 to 140 degrees with the vertebral column. This position offers no obstruction to the passage of the urine into the urethra and the sphincter is not excited. Dr. Stumpf has cured twelve children and one adult in this way. After three weeks of treatment there need be no fear of recurrence, and the child may be allowed to sleep in the normal position.

Calcium Sulphate as a Prophylactic Against Influenza.—Calcium sulphate has been recommended by Dr. Gelle as a prophylactic against influenza, in doses of 0.06 grammes per day in pill form. Three days of treatment, he says, suffice to secure immunity.

Subcutaneous Injections of Sublimates as Cure for Cerebro-Spinal Meningitis.—An Italian, Dr. Dazio, suggested this treatment, and with it Dr. Consalvi, of Casoli, has recently treated successfully nine cases occurring in an epidemic of influenza (*Sem. Méd.*, January 15, 1896). The quantity of sublimate injected varied from .005 millig. to .01 centig., according to age of patients, which was from fourteen months to nineteen years. He made at first one injection in twenty-four hours, and later one in forty-eight. One case alone proved fatal, a girl of seven dying, after first showing temporary improvement after injection. In other cases vomiting ceased after the second injection, followed by disappearance of other symptoms, except the muscular rigidity. This persisted until after the sixth to eighth injection in some cases. The injections restricted the disease to a moderate intermittent fever, with slight headache. The sublimate produced no disturbance except in two cases; one, a girl of fourteen, had a slight attack of mercurial stomatitis after the tenth injection, and another girl of seven a bloody diarrhœa after the fifth, but both soon passed away. Besides the sublimate, Dr. Consalvi used leeches, ice, frequent purgations with calomel, and bromide of morphine to quiet the patient. As recovery progressed he gave them iodide of potassium to expel the mercury from the system and favor the absorption of the meningitic exudations.

Suction of the Nipples in the Treatment of Fibrous Tumors of the Uterus.—Dr. Howitz relates (*Centrlbl. f. Gynaek; Hom. Jour. of Obs.*) that he happened to have at the same time under his care two women, both of whom were pregnant, and both of whom had large fibro-myomata of the uterus; one of these women nursed her child, and an examination at the end of five months after its birth showed that her tumor had entirely disappeared. The other woman did not nurse her child, and her tumor remained unchanged. These cases led him to seek if by means of suction a favorable influence could be exerted upon fibrous tumors of the uterus. He has tried it in only five cases, the suction being carried out daily. In some of the cases there seemed to be a diminution of the size of the tumor, and in no case has any harm been noticed as the result of the procedure.

Chelidonium in Cancer.—Dr. Denissenko (*Vratch; Deutsche Med.-Zeit.; N. Y. Medical Journal*) has tested its action on carcinomatous growths in the Municipal Hospital at Brjansk. He directs that from 22 to 75 grains of extract shall be taken internally, dissolved in distilled water or peppermint water, every day throughout the treatment. Into the substance of the tumor, as close as

possible to the boundary between it and the healthy tissue, he throws a number of injections of from 2 to 4 drops of a mixture of equal weights of the extract, glycerine and distilled water, not exceeding a syringeful in all. The frequency with which these injections are given is not stated. If the tumor is ulcerated, he paints its surface twice a day with a mixtuie of one or two parts of the extract and one part of glycerine. Iron, quinine and other supporting remedies are employed according to the indications.

The effects of this treatment were shown in a few days. They were the following: 1. The sallow hue of the skin disappeared. 2. Softening of the tumor set in. 3. After from three to five days, there formed at the points of injection fistulous tracts about which the softening process went on with special rapidity. 4. In from fifteen to twenty days a line of demarcation could be distinguished between the morbid and the healthy tissues; the one seemed to be forced away from the other. In general the tumor diminished more than half in circumference, and the affected lymphatic glands of the neighborhood underwent involution.

Hydrastis Canadensis in Catarrh.—Hydrastis is a valuable local agent in affections of the nose and throat. It acts as a sub-astringent tonic to the parts to which it is applied. Simple catarrhal, follicular or granular pharyngitis is often cured by it, as also are syphilitic ulcerations of the naso-pharyngeal passages. The colorless hydrastis has a beneficial effect in the various forms of sore throat, rhinitis, and also ulcerated or aphthous varieties of tonsillar, pharyngeal and retro-pharyngeal catarrh. Subacute and chronic naso-pharyngeal catarrh where the mucous membranes are dry are dry and parched, the secretions being altered in quantity and character, is cured by it. In catarrhal hypertrophy with profuse discharge and thickening of the Schneiderian membrane, this preparation is without an equal. It should be somewhat diluted, and is never the remedy for active inflammatory lesions.

Hydrogen Dioxide in the Treatment of Epistaxis.—Gillette (*New York Medical Journal*) recommends the use of hydrogen dioxide in cases of bleeding at the nose. He uses a teaspoonful or more in full strength, with any ordinary syringe. Relief is obtained immediately. In operations in the nasal cavity, when bleeding obscures the vision, inject hydrogen dioxide. Ask the patient to blow the nose, and the field is clear again.

Warm Water for Earache.—When called in the night to attend a case of earache (*Ec. Medical Journal*), the pain in the majority of cases is caused by a beginning inflammation of the middle ear, and in the rest of the cases it is probably neuralgia from exposure. In either case the pain is almost instantly relieved by filling the ear full of warm water. Internally give aconite and pulsatilla.

Massage in the Treatment of Muscular Rheumatism.—Graham, (*American Journal Medical Science*, Vol. CVI., No. 2, *Modern Medicine*) points out that lumbago may arise from cold, strain, fatigue or rheumatism. Its pathology is probably coagulation of the semi-fluid contractile muscular substance, and adhesion of muscular fibrils, so that motion gives rise to partial, irregular, and painful contractions. Recent cases of muscular rheumatism are almost invariably cured by massage. The author further states that the same result may be brought about, though not so rapidly, by rest, warmth, electricity, or the use of salicylate of soda. Five different actions are claimed for massage by the author, namely, mechanical, thermal, electrical, nervous and chemical, and he suggests that when a case of apparently muscular rheumatism does not only not yield, but does not remain improved after massage, the probability is that the case is one of neuritis, affecting the nerve fibers that supply the impaired muscles. This probability will be strengthened if the pain is uniform, affecting the same muscles on both sides, if it is worse at night, when at rest and warm in bed, and better when up and moving about. In the case of muscular rheumatism it would be aggravated by motion, and relieved by rest and warmth. Massage may thus be used as a means of diagnosis between muscular rheumatism and neuritis.

Spirits of Camphor in Post-Partum Hemorrhage.—Dr. J. C. McAllister states (*Medical Council*): "In a few cases of very serious post-partum hemorrhage, due to atony and relaxation of the uterus, after emptying the uterus of all clots and shreds, I have carried a clean, small handkerchief saturated with spirits of camphor to the fundus and mopped the inside of the uterus with it. In every case the uterus has responded promptly and efficiently, and the patient gone on to a satisfactory convalescence without further complications."

Varicose Veins.—A writer in *Nice Medical* (*Medical Brief*) claims to have treated 164 cases of varices without a single failure, by means of hypodermic injections, 8 drops at a dose, into one of the principal varicose confluents, of a solution containing iodide and tannin, 1 and 9 parts respectively; the operation is without anæsthesia, and repeated when necessary, during which the patient stands, a rubber tube having been placed at the root of the thigh. By this operation a hypertrophic phlebitis is brought on, with thickening of the venous walls, and consequent resistance to dilatation. After operation the veins are compressed ten centimetres above and below the puncture, the limb is wrapped in boric acid cotton, and the patient kept rigorously on his back in bed. The possibility of embolism is purely theoretical and not borne out by facts.

Instant Relief of After Pains.—According to Winterburn (*Journal of Obstetrics*) "in many cases a nice warm meal is better than any medicine; still, where the pains are exhaustingly severe, I turn to amyl nitrite. This potent drug is a very efficient controller of after pains, and, used cautiously, I see no reason to apprehend harm from it. A neat way of using it is to saturate a small piece of tissue paper with five or six drops, stuff this into a two-drachm vial and request the patient to draw the cork and innale the odor when she feels the pain coming on. It acts with magical celerity."

Croton Oil Locally for Tonsillitis.—Dr. Charles Cobbs, of New Athens, O., writes that he has found one-half drop of Croton oil, applied daily to the affected tonsil with a probe, will permanently cure suppurative tonsillitis. He has proven it in his own case, among others.

RETROSPECTIVE DIETETICS.

Low Temperature Pasteurization of Milk.—A paper on this subject by Dr. Rowland G. Freeman (*Archives of Pediatrics*, August), contains a description of an apparatus he has designed for the preparation of food for infants, which is based on the fact that if two fluids of different temperatures are placed in contact these two temperatures will be equalized.

We extract the following summary:

Pasteurization at between 65° C. (149° Fahr.) and 70° C. (167° Fahr.) is recommended for the following reasons:

1. It destroys almost all the ordinary air bacteria which occur commonly in milk.

2. It destroys the bacillus tuberculosis, the bacillus typhosis, the bacillus diphtheriæ and many other pathogenic bacteria.

3. It causes no change in the taste of the milk, and avoids those chemical changes in milk which are produced by higher temperatures.

4. It is possible to pasteurize accurately at this temperature without the use of a thermometer.

Diet in Heart Affections.—A writer in *L'Union Medicale*, Nos. 34 and 35. 1896 (*Medical Chronicle*), in reviewing the various French authorities on the value of diet in relieving symptoms in cardiac affections, devotes the chief part of his paper to milk diet, complete or partial. By complete milk diet he means the prescribing of two and a half to three litres (four to five pints) of milk per diem, to the exclusion of all other food. This should be continued for at least ten or fifteen days, or longer, if indicated. Its value consists in the rest which it gives to the stomach, the kidneys and the heart, the diuresis which it produces, and its freedom from "toxines." It can only be of real service in cases when it is well toler-

ated. Any acidity which it produces is readily treated by large doses of bicarbonate of soda (Dr. i to oz. iss). The cases in which it is of most value are: (1) Reflex palpitations of gastric origin; (2) simple hypertrophy or dilatation of gastric or renal origin; (3) simple or gastric dyspepsia in early stages of heart disease; (4) renal disease secondary to heart affection—very valuable, and should be returned to for short periods (three to five days) every fortnight or month. In late asystolic conditions, where all the organs are affected, and the dyspnœa is not only mechanical, but also toxic in origin, milk diet is useful, but should not be continued too long. When the dyspnœa ceases eggs and vegetable soup may be added and the milk reduced to one litre (one and a half pints) per diem. Later, well cooked, easily digested meat or fish may be added, but the milk should not be left off entirely. If the dyspnœa returns full milk diet should again be resorted to.

Diet in Cirrhosis of the Liver.—In an article on this subject, Dr. F. Overton (*American Medical-Surgical Bulletin*, October 31, 1896) describes a case, which "could probably be duplicated by every physician," as illustrating the results of overworked digestive organs. The liver fails first, and secondarily the intestine and stomach. The liver lesion seems analogous to the change which occurs in the kidneys in chronic parenchymatous nephritis. The cause of both is mainly repeated and prolonged indiscretions in eating, and in each there is degeneration of the cells of the organ. Why in one case the cells of the kidney should degenerate, and in another the liver cells, it is impossible to state. Both are active agents in excretion, and resemble each other in the arrangement of large cells around excretory tubes. Possibly the patient's active life may cause deeper breathing and more complete oxidation, which leaves completely formed and unirritating excretory products for the kidneys to handle, and to save them from overwork. But this very activity causes a greater appetite, which leads to the imposition of more work upon the digestive organs. The result is a liver degeneration, which is described in text books under the head of cirrhosis of the liver, of the hypertrophic type.

When cirrhosis of the liver is treated along the same lines as nephritis, the result is most happy. The proper secretion of either the liver or the kidneys can be stimulated by drugs, and hepatic stimulants or cholagogues are as necessary in the one as diuretics are in the other. But while it is necessary in each to stimulate secretion, it is still more necessary to put the least amount of work upon the weakened organs. When the food is thoroughly digested the liver will have the least amount of work to perform, so digestive aids are of the greatest value. Hydrochloric acid and ox bile both make the power of the digestive ferments many times stronger, and are of more value than any other forms of artificial digestants. Besides, both are the natural antiseptics of the alimentary tract. But artificial digestion can only be carried on with the simplest and most easily digested food. So, when indigestable food is eaten the liver will still be overworked in spite of the best medication. On the other hand, some food requires little or no artificial aid in digestion, even by the weakened digestive juices. This is the kind of food which patients suffering from cirrhosis must eat if they would live at all comfortably and safely.

While it is impossible that the liver cells should completely recover their integrity, yet by eating food which imposes little work upon the liver, and by giving artificial digestive aids it should be possible for a patient to enjoy years of life. It is one thing to advise patients to eat a light and simple diet, and quite another to get them to follow the advice. To them toast and crackers with tea, and now and then an egg, seems the ideal diet. Few can be made to realize that all animal foods are more easily digested and assimilated, and give rise to less bloating and sourness of the stomach than vegetable food. Few will believe that milk is a complete food capable of sustaining life and strength, and yet they insist that the solutions of urea and salts, called beef extracts, are foods doubly concentrated. Fruit, they believe, not only promotes digestion, but supplies some principle which is "cooling to the blood." Without definite and rigid instructions, these ideas will be put into practice. Fermentation in the stomach and intestine, and an aggravation of all the symptoms surely follow.

Not the least evil of such diet is its excess of sugar, which is stored in the liver and uses its energy, leaving it weakened for its other duties. Milk is the most easily digested of foods, and contains food elements in the best proportion. Following this indication, the milk diet can be varied with food containing albumen, fat and sugar in approximately equal quantities as they are in the milk, always giving the preference to food of animal origin.

Patients will usually follow diet directions until they begin to feel fairly well, then the old habits of indulgence in sweets and spices, fruits and nuts overcomes their judgment, they tire of the monotony of fresh meat and regular meals, and long for their old pleasures. They are apt to be childish and refuse to eat at all, unless their old appetites are gratified. So they relapse with an acute attack of indigestion and prostration, which is Nature's way of enforcing a proper diet. These periods of improvement and of relapse may be repeated several times before the patient finally succumbs. They go to prove that with strict attention to diet, health may be preserved indefinitely.

It is almost indispensable to have a strong-willed nurse who will aid in carrying out the doctor's directions. It will be all the better if all the family will eat just such plain and simple food as the patient eats. It is an aggravation to the patient to humbly partake of bread and meat, while the rest of the family have pie and pudding. On the other hand, the whole family would be better off if they should eat like the patient.

The case of the patient referred to above is typical of the limitations of drugs in cirrhosis, without strict attention to diet. For a while, artificial aids to digestion enable the patients to live comfortably; but, unless the most easily assimilated food is eaten, the prognosis is even more hopeless than it is in nephritis.

OBITUARY.

DR. JOHN ELLIS died at his residence in this city, December 3d, at the age of eighty-one years. Dr. Ellis was for several years professor of medicine in the Hahnemann Medical College, and the author of several works on theology, medicine and temperance.

DR. JAMES B. GILBERT died at his residence, No. 23 West Thirty-seventh street, December 9th, aged forty-four years. Dr. Gilbert was born in Gilbertsville, in 1852, and graduated at the Medical Department, University of the city of New York, in 1873. After two years in the hospitals in Europe he continued in the practice of his profession in this city until the time of his fatal illness.

DR. DECLAT died at his villa, Nice, France, November 26, 1896. He was the originator of the antiseptic method of treatment in medicine and surgery. He administered phenic acid, and used it for dressings in 1861, and for hypodermic injections in 1863. Dr. Lister followed suit in 1868. The antiseptic method has nearly banished puerperal fever and gangrene from the hospitals.

Dr. Declat was able, having been the assistant to a professor of chemistry, to rectify (that is, purify by fractional distillation), the phenic acid of the shops, which is invariably altered, and combine it at the time being with syrup, glycerine, or oil, and attributed his success to this precaution. He had been awarded medals for phenic acid and its chemical combinations.

An able physician, an accomplished gentleman, a warm friend, he will be remembered by many of the profession whom he met on his tour through this country, from New York to San Francisco in 1881-2.

He initiated the antiseptic method in advance of the times, and excited many enmities by the warmth with which he upheld views since corroborated by bacteriologists.

MISCELLANY.

—Kossman recommends to induce labor the injection of a drachm of glycerine within the cervix.

—The Japanese intestine has been ascertained to be one-half longer than that of the European.

—*Musmeci* recommends the washing out of the stomach in strychnine poisoning with eucalyptus as an antidote.

—After January 1st all milk dealers must be licensed and their milk at any time be subject to official inspection.

—A good local anæsthetic for spraying abscesses before lancing is made of a half drachm of chloroform in an ounce of ether.

—A German observer points out that by the use of the X-ray, brick dust can be traced in Cayenne pepper, sand in spices and chalk in flour.

—When patients complain almost continually of toothache or sensitive teeth, it is usually (*Dental Register*) an indication to administer the phosphate of lime.

—Lauder Brunton says: "Irritability may be an indication of heart disease, of gout, or of an unperiodic headache. Bromides relieve the irritable nerve centers."

—The interior of the eye has been successfully photographed in two seconds. In this way the progress of disease or recovery can be measured by actual pictures of the retina.

—Mr. Jonathan Hutchinson has been obliged to exclude female medical students from his clinical afternoons, owing to the unwillingness of male patients to undress before them.

—By prophylactic measures relating to the sputum of consumptive inmates, the mortality-rate from tuberculosis in Prussian prisons has been reduced to about one-half what it was ten years ago.

—It is claimed that if ten drops of a 6 per cent. solution of cocaine are injected hypodermically into a carbuncle in the incipient stage, the further development of the inflammation is totally abolished, resulting in immediate cure.

—The mucous membrane can be made anæsthetic, says the *Times and Register*, by oil of cinnamon, 1 to 500. The same journal also prescribes eight grains of salicylic acid, every hour for tape worm till five or six doses have been taken.

—Dr. Carlister V. Luther treats herpes zoster with applications of hot water for a few moments, followed by cold. The hot water increases the itching, but the cold relieves it for several hours. Applied four times a day for a few days it produces a cure.

—The Loomis Sanitarium, in Liberty, Sullivan County, was dedicated by Bishop Potter on November 20th. In the construction of the building, the cost of which has been defrayed by Mr. J. Pierpont Morgan, the very best scientific work of the present day has been utilized to the very best advantage.

—There is a particularly durable sort of cracker on which end-of-the-century babies learn to cut their teeth. It is made in ring shape, and may be tied about the young person's neck by the customary string. The cracker is supposed to be free from whatever injurious qualities the silver, ivory or coral rings possess.

—There has been incorporated in Camden, N. J., the Pennsylvania Medical & Burial Co. The objects of the company are to enter into contracts with people to provide them with funeral and mourning supplies, drugs, medicines and medical service. The capital stock is $50,000 and the amount paid in is $1,000.

—There are said to be 25,000,000 people in this country with gold-filled teeth, whence it is figured out that about $100,000,000 worth of the precious metal is thus removed from circulation. It is therefore suggested that gold worth at least $50,000,000 could be recovered from American graveyards if the teeth of the last two or three generations were collected.

—The *Lancet* is responsible for the following account of an almost incredible escape: William H. Bartlett, aged eighteen years, a few days ago fell down the shaft of North Biddick Pit, in the County of Durham, a distance of 270 feet, into some thirteen feet of water, and upon being rescued was found to have sustained trifling injuries—both wrists sprained, and a few scalp wounds.

—It is unofficially announced in Paris and Vienna that a ray with far greater penetrating power than that of Roentgen's has been discovered by Prof. Donneun de Syke. Photographs are said to have been taken through a plate of iron eight inches in thickness, and many other substances that are opaque to the X-rays offer very slight obstruction to this new form of radiation.

—Dr. James G. Kiernan, of Chicago, informs the *Medical News* that after an editorial service of nearly ten years upon the *Medical Standard*, he has now severed his connection with that journal, because of the insistance, "by the publishers, upon intruding nostrum advertisements, and the conversion of the journal into a 'write-up' organ for nostrums and allied performances."

—Death is the penalty for breaking through quarantine in France, according to a law passed in 1822 and still in force. A peasant from the Pyrennes, who had returned from Buenos Ayres in a yellow fever ship, and had scaled the Lazaret walls at Pauillac in order to get home sooner, has just been on trial for his life at Bordeaux. Though his offence was clearly proved, the jury naturally acquitted him.

—It has been found (says the *Journal d'Hygiene*, September 30th) that if urinals are coated with heavy oil, such as is obtained by distilling petroleum, the urine leaves no traces or odor as it runs off. The 178 public urinals of Vienna are treated in this way, with satisfactory results, saving the city $30 a year for the water supply of each. Many other European cities have already adopted the use of oil for this purpose.

—Electricity will serve to alleviate as well as to increase the horrors of war. The members of the ambulance corps in the French army have been provided with a means for the succor of the wounded at night on the battlefield. Each man of the relief corps will wear a little incandescent lamp in his hat, the current being produced by a small primary battery in his pocket. The wounded will be on the lookout for these electric Jack-o'-lanterns, and doubtless many lives will be saved by the quick assistance given.

—A Mexican paper states that a private retreat for millionaire drunkards is to be located on a small island in the Ellire group, about 500 miles from Vanna Levu. For $5,000, payable in advance, the managers undertake to receive a patient in London immediately before the sailing of the steamer for New Zealand, this sum to pay his traveling expenses, to keep him on the island for a year and to give him a return ticket to London at the end of the year. A hotel has been planned upon a sumptuous scale, and every conceivable means will be taken to make the patient's stay agreeable.

—Professor Pajot, the distinguished French obstetrician, died recently in Paris, at the age of eighty. He was the founter and director of the *Annales de Gynécologie*, and the founder and first President of the Société d'Obstétrique et de Gynécologié de Paris. Pajot was a man of great acuteness and originality of mind, and as a practical obstetrician he was almost without a rival in France. He was noted also for his caustic wit, which made him many enemies. Few of his epigrams were as harmless as his epitaph on Civiale, the famous lithotritist, which has been thus translated:

"For Civiale who's dead and gone,
Though sympathetic tears may gush,
Set not upon his grave a stone
Which he would surely rise and crush."

ORIGINAL ARTICLES.

ON THE TREATMENT OF SOME DISEASES OF THE RECTUM.

By George Boice Durrie, M. D.
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In all surgical procedures, that method which will most radically and at the same time most easily relieve a patient of whatever disorder he may have, should commend itself to the surgeon, whose chief, and indeed only object should be to cure his patient. If, on the contrary, the object of the surgeon be primarily to show his skill in operating, to demonstrate to a number of assistants and onlookers how dextrously he can wield the knife, he will look with but slight favor upon a course that offers but little opportunity for surgical display, however successful may be the result for the patient. To relieve suffering, to eradicate disease, every operator will admit is, or should be the object of the surgeon, but candor compels me to say that many men seem to think more of the way a thing is done than of the result.

In operating for the cure of hemorrhoids, for instance, they will make use of the clamp and cautery, or the ligature, and would refuse to believe that a simpler method could be relied upon in skillful hands to accomplish just as much, and as I believe, even more. I am aware that in asserting that the judicious use of carbolic acid, injected by means of a hypodermic syringe into a hemorrhoidal tumor, will just as surely destroy it as the clamp and cautery, or the ligature, I am running contrary to the views of most surgeons, but it is *true* nevertheless, as can be proved by thousands of cases. To be sure, failure may come in some instances, but it is much more likely to come through the fault of the operator than from any defect in the method, for it is just as important to be thoroughly skilled in operating with the needle as in the operations of a more complicated character. It may be said that the injection method requires a longer time to effect a cure. This may be so, but it has the advantage of needing no anæsthetic, no assistants, and the patient is able to attend to his daily duties while undergoing the treatment. Moreover, instances are not infrequent when so great is the dread of anæsthesia (a *sine qua non* in every operation upon the rectum except the one I am advocating) that rather than submit to it, a patient will go on for years in misery and discomfort. It will be said by many surgeons that the injection method has been tried and found wanting; that it is at best only palliative; or, going to the other extreme, they will say that it is dangerous; likely to produce troublesome ulceration, etc., but I have yet to see a single instance, where, given a suitable preparation of the carbolic acid and a careful application, the result has been otherwise than satisfactory, meaning thereby, a complete cure of the hemorrhoids, with no outside complications whatsoever. Bull, in his excellent work on the rectum and anus, says: "The injection of fluids of various kinds by means of a hypodermic syringe into the interior of a pile, is a method of treatment which has recently been revived, more especially in America." After mentioning tincture of perchloride of iron, solution of ferrous sulphate, and liquid extract of ergot as fluids that have been used, he continues: "But the only injection which is now used to any extent is carbolic acid, either in simple solution, or combined with tannic acid." He quotes Kelsey as saying: "For many years it had been a common practice among quacks and itinerant pile doctors, and owing to the undoubted success which they sometimes obtained, he was induced to try it scientifically, so as to determine its limits of application." Continuing, Bull says:

"The advantages claimed by the supporters of this operation, are safety, freedom from pain, and no necessity for confinement. But even in America it has not met with by any means universal approbation." I have no hesitation in saying that this is due to the fact that very few surgeons are content to perform an unpretentious operation, even though to the patient it offers every advantage. In one instance that came to my notice not long since, a woman suffering from an aggravated hemorrhoidal condition, had become so reduced by repeated hemorrhages, that a surgeon who was called in to see her refused to undertake any operation for her relief unless the patient herself would assume all responsibility for the result, so fearful was he that she would not be able to stand the shock of a protracted operation. Alarmed, naturally, at being placed in a position of such danger, she hesitated, but, her attention being called to the advantages of the method of treatment by hypodermic injection, she put herself in charge of a physician well-known for his skill in this department of surgery, and the result was a perfect cure of the hemorrhoids and her complete restoration to health; a result I venture to say that it would have been difficult to obtain by any other mode of treatment. It may be that I am an enthusiast on this subject, but my enthusiasm is based upon knowledge and experience that make it justifiable. It seems almost wicked to subject a person to the terrors of a bloody operation, and the subsequent confinement, for the relief of a trouble so readily and effectually remedied by gentler means. It is not within the scope of this article to describe the details of the injection treatment of hemorrhoids. I merely say that when satisfied that the part to be treated is genuine hemorrhoidal tissue I insert the needle quickly but carefully to the center of the pile, and inject the carbolic acid, diluted with distilled water and glycerine, and with no painful accompaniment the pile disappears as surely as if it had been destroyed under the smoke of burning tissue.

In more ways than one, this method of operating for hemorrhoids commends itself to the surgeon who has in view the best interests of his patients. In the first place, there is no need of an anæsthetic, and hence no need of an assistant. In the second place, the operation can be done on an ordinary bed or lounge, and there is no expos-

ure, except of the part directly operated upon. The patient suffers no inconvenience whatever, and is able to get up and go about within a half hour after receiving the treatment. Some, I know, will question the efficiency of this method, in spite of all that can be said in its favor, for prejudice is hard to overcome, but if they could be brought to look at the matter with unbiassed minds, the results could not fail to be convincing. Another disease of the rectum, and a most distressing one, about which I wish to say a few words, is fissure of the anus. There are cases that may be successfully treated medically, but the treatment is above all surgical, and I mean thereby a thorough and complete dilatation of the sphincter muscle.

Mr. Floersheim, in the *Journal des Practiciens*, says in speaking of the treatment of anal fissure: "Forced dilatation of the anus is certainly preferable to all other methods. It is extremely painful, however, and it is necessary to anæsthetize the patient with chloroform (my preference is for nitrous oxide gas), or to practice local anæsthesia with a 50 per cent. solution of cocaine hydrochlorate, which is injected around the anus." He states that he has used the latter means and finds that it is sufficient to prevent all pain, provided an interval of five minutes is allowed to elapse before dilatation is practiced. "Anal dilatation," continues M. Floersheim, "rapidly suppresses pain and spasm of the sphincter, and unfavorable results rarely follow." As to the way of making the dilatation, I consider the descriptions given in most of the works on surgery very faulty. One writer follows another in telling you to put the patient on the back, in the lithotomy position, then inserting your thumbs in the anus, proceed to stretch the muscle; but this can be done to much better advantage in a different way, and I cannot see why men cling to a plan that has so many objectionable features, except that they are slow to give up traditional ideas. Put the patient on the left side, back close to the edge of the bed, knees bent and drawn up towards the abdomen, then introduce the thumb of the right hand, following it with the first two fingers of the left, and you can, with comparatively little effort exert the force necessary to overcome the resistance of the sphincter muscle. The active muscle being put at rest, the fissure heals itself without the slightest difficulty. Another matter in connection with diseases of the rectum of which I wish to speak, is the manner of treating fistulæ, as they occur in this region. They are of very frequent occurrence, and result generally from an abscess.

Allingham, in his table of 4,000 consecutive cases of diseases of the rectum and anus, found 1,208 cases of fistulæ. He found also that in 151 cases out of 196 the fistula resulted from an abcess. As a rule, a fistula will not heal without an operation, although instances are known where they have healed spontaneously. And it is of the *kind* of operation that I wish to speak. The track of the fistula must be laid open, and there are virtually but two ways of doing this, *viz:* With a knife or with a ligature. With the knife, the opening is accomplished at once, but in my opinion the ligature is greatly to be preferred in the majority of cases. Its use requires no anæsthetic, and its operation is followed by little or no hemorrhage. A stout silk ligature may be used, or, if the track of the fistula is not very deep and the patient not one likely to be restive, a piece of rubber cord. An eyed probe, through which the ligature is carried, should be passed into the fistula, and through the internal opening, if there be one, then drawing down one end of the ligature through the anus, fasten it to the other end, hanging out of the external opening, and thus enclose all the intervening tissue. The ligature being tightened every day or two, according to circumstances, all of the enclosed tissue will be readily divided, the healing process following close upon the division. In the case of a deep fistula, where there is a large amount of tissue inclosed, the healing process can be hastened by packing the cavity with marine lint, saturated with balsam Peru. Due attention should be paid to cleanliness, and the parts kept aseptic by thoroughly spraying with peroxide of hydrogen or electrozone. In this way the most desperate cases can be successfully dealt with, and at no time has the patient had to endure any great amount of pain, nor has he been prevented from going about as usual. Considerable ingenuity is at times required, when there are several sinuses running in different directions, to pass the probe around with the ligature, but failure does not come to one who exercises due patience and perseverance.

It was my privilege, some months ago, to see, in connection with the surgeon who was treating the case, a very deep-seated fistula. The patient was a very large man, with enormous buttocks, and as the fistula had extended some three or four inches from the anus, and had burrowed in different directions, it was no small task to put the ligature in place; but this once accomplished, the cutting went on rapidly, and a yawning cavity of great depth was formed. However, this being thoroughly sprayed daily with electrozone, and packed with the lint and balsam, rapidly filled up, and at the end of five or six weeks the cure was complete, greatly to the delight of the patient, who had undergone several other operations for this same fistula, during a period of five or six years, operations which only caused an increase of pain.

In "Pepper's System of Medicine," in the article on diseases of the rectum, an operation for fistula in ano is proposed by Reeves, which is a compromise between cutting and ligating. He says: "It consists in passing a strong and well waxed silk ligature along the track of the fistula in the bowel. An ordinary surgical probe, with an eye in its end, carries this thread into the rectum. My bivalve expanding speculum has been previously introduced, and by its use there is no difficulty in seizing the ligature and bringing it out through the anus. The probe is then withdrawn and the ends of the silk are wound round two strong pieces of wood, which are held between the fingers of each hand. An assistant passes

a finger on either side of the track of the fistula to steady the tissues and to resist the traction which is put on the silk thread. The two pieces of wood are then drawn toward me with a rapid sawing motion, and the fistula is quickly divided, with scarcely the loss of any blood. Some oiled lint and a pad and bandage are applied in the usual way, and the wound heals readily." He adds (giving his experience with a woman he treated with this method): "No anæsthetic was required, and though the patient did not relish the operation, still it was bearable, and what she felt most was a burning sensation, due doubtless to the friction of the silk." This manner of operating has undeniably some points of advantage, the chief of which is the fact that the cutting is all done at once, but it would not answer in the case of a deep seated fistula, nor in a case when there were several sinuses running in different directions. The slower way is the better for general use, and the results are so satisfactory that I shall be loath to subject a patient to the pains of the sawing operation, when the other would answer all purposes. In some cases, if the fistula is superficial, and if there are several sinuses, it is well to use the knife or scissors instead of the ligature, cutting an inch or so every day, the parts having been made anæsthetic by cocaine. I make no claims of originality in the descriptions I have given to the treatment of a few of the diseases of the rectum, but my purpose is to call attention to some of the advantages to be gained by following a course which, though not as suitable for surgical display as some others, is most fruitful of good results to the patient, and hence, in the end, to the operator.

GASTRO-INTESTINAL DISEASES OF INFANTS AND CHILDREN.

By I. G. Anthoine, M. D., Nashua, N. H.

THE chief object of all medical investigation and teaching is the prevention, relief and cure of disease. Gastro-intestinal diseases of children are among the most common which the physician will be called upon to treat during this and the next three months, and it seemed to me a fitting subject upon which to write. I make no pretention, however, to anything new. The etiology of these diseases is well understood at the present time; they are controllable, and preventive measures should claim our first attention, commencing with the midnight call, when the doctor hastens to the bedside of his patient, who is not sick from any pathological illness, but who is about to pass through a normal physiological process.

With the aid of chloroform, that most wonderful agent in such cases (and usually that is about all the help she needs if the doctor does not become impatient), in due time a cry is heard, which cheers the hearts of the parents and relieves the tired doctor.

Henceforth parental care begins, and, in many cases, the improper rearing of the child. Having begun existence here, dangers and difficulties follow the little one all the way along, and, if not numbered with the "fittest," who are bound to survive in any event, the physician will be frequently called to share the responsibility. The stranger must be fed, for already his fist is crammed into his mouth, and here the earliest and most difficult problem presents itself. If the mother is healthy and can furnish the needed supply of healthy milk, the problem is solved. Too often, however, we find that Nature does not respond at this most critical period, and we are confronted with the question: "What shall I feed my child?"

The market is flooded with infant foods, which are tried and abandoned, and it has come to be a serious matter to know just how to answer her question.

When statistics tell us that 40 per cent. of infant deaths are due to gastro-intestinal diseases, and that a very large per cent. of these diseases are the result of improper or poorly digested food, it is of vital importance that her question should be very cautiously and thoughtfully answered. That children do vastly better on mother's milk than those artificially fed is a well-established fact, but some mothers cannot, others will not, nurse their infants, and no one has yet invented a perfect substitute. I think, however, that physicians are unanimous in the belief that in cow's milk we find the nearest approach to it, but this has its dangers and disadvantages; thousands of children have doubtless taken tuberculosis from cow's milk, and there are dangers all the way from the time the milk leaves the udder till it enters the child's stomach; in the care of the cow, the stable, milk cans, nursing bottles, and various other ways, making sterilization positively necessary. Sterilized milk answers the purpose for a while with most children; boiling expels the air, destroys the germs of typhoid fever, diphtheria, tuberculosis, and tends to prevent the changing of milk-sugar into lactic acid and the rapid acidulation of milk with its ill effect on the secretions of the intestinal tract, but when long continued it has been found that it interferes with nutrition, and in some instances, even to the extent of producing scurvy. The composition of cow's milk differs from that of mother's, necessitating change in the three important elements—fat, sugar and proteids. To make these changes and produce a food free from disease germs, that will digest and assimilate during the hot weather, opens a field for the best work of the brightest intellects in the profession. Pharmacists claim to have such a food, equal to the mother's milk, but experience with it proves otherwise. We have tried them all, and indigestion, followed by flatulency, colic, diarrhœa, cholera infantum, and death, is a common result, and I think the majority of physicians have returned to cow's milk as the safe and better food.

Now, if we must rely upon cow's milk for infant feeding, it is of the greatest importance that every effort be made to furnish the very best.

Just how to obtain such a supply is a great problem, the solution of which I will leave to wiser heads than mine.

While improper food is the most common cause for gastro-intestinal diseases, numerous other causes might be mentioned: Too frequent feeding, as often indulged in by the mother; most innocent articles, when taken in excess, may produce indigestion; the sudden changing from a warm to a cold room; allowing the child to sit upon the cold floor. Nearly all children are burdened with two much clothing, thereby keeping up a constant perspiration, and, of course, a liability to sudden and frequent colds, which often result in diarrhœa. The mother, who nurses her child and tosses it on the bed or in its cradle with very little clothing, in hot weather almost nude, and goes about her work, allowing the little one to care for itself, feeding nothing but breast milk and plenty of pure cold water, seldom has occasion to call in her physician. Such little ones are fat and happy, thrive and become robust, grow up with a good, healthy physique, able to face the trials and hardships of life and the numerous diseases with which they come in contact, the system possessing the highest degree of resistance against all disease processes.

Lower the standard by improper feeding or any other means, and the system, when attacked by disease, whether infectious or not, is unable to cope with it, and the regular course of the disease follows. This is especially true in children of feeble intestinal digestion, the unhealthy state of the intestinal mucous surface being a nucleus for all forms of disease. The common cause for intestinal diseases is intestinal indigestion, and this is due to the presence of micro-organisms and the fermentative changes produced in the various foods in the alimentary canal by their presence, and by taking more food than can be perfectly digested and of improper kinds, such as the feeding of cow's milk, plain, or any artificial food, in the place of human milk, or allowing vegetable or starchy food to be taken before the stomach is sufficiently developed to perfectly digest them. The chemical make-up of cow's milk is so different from that of human milk, that, when relied upon wholly for infant nourishment, it is disappointing, and in many cases disastrous, causing indigestion and mal-nutrition, as shown sometimes by constipation and at other times diarrhœa. When properly diluted, however, and other materials added, such as barley water or oatmeal water, cow's milk, sterilized, ranks first in the list of artificial food for children. Without these additions, constipation or diarrhœa will often result, and the evils associated therewith; if diarrhœa, dilute with barley water; if constipation, oat-meal water is indicated.

Cereals thus added to cow's milk not only furnish nutritious elements, but break up the casein, thereby preventing the formation of curds, a common difficulty when cow's milk alone is used.

These are some of the essential conditions that tend to induce the intestinal diseases for which physicians are so frequently called upon to prescribe, and he who prescribes little medicine, but gives especial attention to dietary and hygiene, will be the most successful. One half to one grain of hydg. chlo. mite, or hyg. cum creta, and the abandonment of all foods for forty-eight hours, except barley or oatmeal water, or junket made from peptonized milk, will set the little one right if suitable food be given thereafter, and careful attention paid to the hygienic surroundings, such as exudations from decomposing organic matter, fermenting excreta, and other filth, the gases from sewers, cesspools, and privies, the foul air of crowded apartments, all of which tend to induce intestinal diseases.

Heat is also a prominent factor in promoting intestinal diseases. Statistics show that "whenever a wave of high atmospheric heat continued day and night for more than five days, an outburst of summer diarrhœa and cholera infantum was the result. It was particularly noted that high temperature for a single day or for several days with cool nights was not followed by an increase of these diseases, but when the heat was continuous, and especially when at the same time winds were absent, with the consequent impairment of ventilation, attacks and relapses were numerous. If high temperature and stagnation of air continued for two weeks or more, great mortality, especially in children, resulted.

"These facts would seem to indicate that heat produced marked effects by its direct action upon the body itself, through its indirect operations upon its surroundings, upon foods and drinks and the air, upon fermentations and decompositions, which it favors, and upon the innumerable bacteria and the production of various organic poisons."

Heat also favors putrefactive changes in food and other organic matter, and the increase of nearly all forms of filth, within and without the body, and the production of bacteria and ptomaines, which are important elements in the causation of these as well as infectious diseases.

These things being true, it is very essential that slight ailments of the bowels, such as diarrhœa, colic, and constipation, should receive early attention, especially in hot weather. The bowel symptoms appear before the stomach becomes involved, either in the color of the discharges, which in the early months should be of a golden yellow color, unformed, of medium consistency, showing a large proportion of water, and sometimes changing, on exposure to the air, to a greenish yellow. In early infancy two or four discharges daily are normal; as the child grows older, two; and finally, one. Deviations from these normal conditions should receive early attention. Constipation is one of the earliest and most common symptoms of indigestion, which, if left alone, leads to other more serious difficulties.

Bouchard first pointed out the influence of ptomaines in the production of disease. He says: "The poisonous activity of human fæces is very great, even when they are quite healthy. A substance obtained from them by dyalysis caused violent convulsions in rabbits. Enough alkaloids are produced in the intestines of a healthy man

in twenty-four hours to kill him, provided they were all absorbed and excretion stopped."

These alkaloids, produced probably by decomposition of superfluous and poorly digested food, tend to bring about diarrhœa, and some of them are powerful irritants to the mucous membrane of the alimentary canal, and, no doubt, important factors in the production of gastro-intestinal diseases of children. These facts in mind, which are real facts and not theories or fancies, the first thing to do by way of treatment, for the constipation, would be to relieve the bowels with some antiseptic cathartic, such as hydg. chlo. mite, followed by salol or salicylate of soda, thus relieving the system and preventing the more troublesome symptom-diarrhœa and at the same time correcting the diet, if that is in fault, as it usually is. If fed on cow's milk, it will be found too rich in fat or proteids, and these elements must be diluted; oatmeal water may, and usually does, answer the purpose well. If diarrhœa ensues, the treatment in the main should be the same. Constipation among children is so common and leads to so many other ailments that it needs more than a passing thought. Not infrequently the physician is called to a child, usually from three to eight years, suffering from severe pain, high temperature, rapid pulse, and upon investigation, the bowels are found loaded with hardened fæces, from which a thorough enema will bring forth solid masses in the shape of bullets, which from their long stay have induced inflammation of the bowels, diarrhœa and perhaps, peritonitis. And just here I may add that the so-called typhoid fever "broken up" and the patient about in a week was not typhoid fever at all, but symptoms of poisoning from retained fæcal matter. A child thus poisoned is much more susceptible, however, to other diseases, which may in this way at any time develop, summer, or fermental, diarrhœa being the more common.

I have already given the etiology of this troublesome disease, or rather symptoms, and the symptomatology, etc., are so familiar to all that I will not weary you with them, but will pass at once to the treatment: Watchfulness, in regard to the condition of the discharges or any indisposition of the child, varying the diet as symptoms seem to indicate. Much can be done at all seasons of the year, but more especially in hot weather, by prophylaxis, by protection from the extremes of heat and cold, giving the advantage of fresh air and good hygienic surroundings. Everything in the shape of food or drink should be sterile, varying the liquids and solids according to the atmospheric temperature; when very hot, feed more liquids and less solids, add more water to the Mellin's Food, or even the sterilized milk. If the child is old enough to eat fruits, let none be allowed uncooked. If the slight ailments are closely watched and promptly treated the mortality rate among children would be greatly reduced, and nearly all would pass through the heated term without much illness.

Washing out the stomach and bowels with sterile water is a most valuable remedy, and should be applied early, when the first symptoms appear. After flushing the bowels and, if convenient, washing out the stomach, a dose of castor oil may be given, or gr. i-ii of hydg. cum. creta, till a cathartic effect is obtained, followed by arsenite of copper in doses varying according to age of child, from $\frac{1}{1000}$ to $\frac{1}{100}$ gr. every two or three hours, not for its astringent, but antiseptic effect. Astringents should seldom be used, except as an opiate when needed to relieve severe pain. In country practice those remedies are almost always successful, but in crowded cities they frequently fail, and the only remedy is removal into the country. Dysentery should be treated on much the same plan, except in the flushing of the bowels use alum water, ʒi of alum to a pint of warm sterile water, two or three times a day. Summer, or fermental, diarrhœa is sometimes diagnosed cholera infantum, and occasionally the differential diagnosis is not easy; but cholera infantum is more acute and serious in its attack, the vomiting and diarrhœa being almost synchronous with each other; the profuse, watery, odorless discharges, cool surface but high internal temperature, rapid emaciation, are all pathognomic symptoms of cholera infantum, and are generally sufficiently clear upon which to base a diagnosis.

Cholera infantum is probably induced by a specific micro-organism which has not yet been found, and which finds a nidus only in an unhealthy alimentary canal during the hottest weather.

Prevent indigestion and fermentation of food after it enters the child's stomach, and the germs of cholera infantum will have no habitat in which to perform. This can almost always be accomplished with children fed upon mother's milk, but with those artificially fed it is much more difficult, requiring the closest care and watchfulness with reference to the food, nursing bottles, and all hygienic influences.

The onset of the disease is almost always sudden, and should be promptly and heroically treated, first, by washing out the stomach and the whole alimentary tract with sterilized water, followed by a solution of salicylate of soda or listerine, which can be done without much trouble with the stomach tube or a common fountain syringe with a large gum-elastic catheter attached to the tubing. Abandon food of all kinds till the vomiting ceases, allowing nothing but sterilized ice water, which must be given very often, to quench the intense thirst. The mucous surface is in such a state that it cannot absorb foods of any kind; for the same reason medicines are worse than useless, although calomel or some antiseptic remedies, such as listerine or borolyptol, may be used, and brandy hypodermically to prevent collapse. Supply warmth to the cool surface by wrapping with a sheet wet in water as hot as can be borne, with a dry blanket around this, repeating frequently till the surface heat is restored. If the child can be supported for two or three days without too great emaciation, the chances for recovery are quite favorable.

Especial prescriptions may be found in our

medical journals and systematic works, most of which are astringents, but antiseptic intestinal medication has shown such good results during the past few years that astringent remedies should, in most cases, be abandoned.

SURGICAL TREATMENT OF INGUINAL HERNIA.

By C. Deaderick, M.D., Knoxville, Tenn.

THE normal inguinal canal in the average-sized man is about an inch and a half long, and extends obliquely downward and inward, parallel with Poupart's ligament and about half an inch above it; it communicates with the abdominal cavity by means of the internal inguinal ring, and ends below in the external inguinal ring; it is bounded in front by the aponeurosis of the external oblique muscle in its entire length, and in the outer third by the tendon of the internal oblique; behind by the conjoined tendon of the internal oblique and transversalis muscles, the triangular ligament, and the transversalis fascia. Oblique inguinal hernia follows the course of this canal, while in direct inguinal hernia the conjoined tendon and transversalis fascia are forced directly through the external ring and form part of the coverings of this variety of hernia.

The cases of hernia which require surgical interference are usually those which cannot be reliably retained by a truss, and in this class of cases we find the inguinal rings and canal enormously enlarged, the internal ring expands in a downward direction, and the external ring upward, so that we sometimes find the canal shortened to only the thickness of the abdominal walls. What we want to attain by our surgical procedure is to reconstruct, narrow, and restore the canal to its normal size and position; the oblique direction of the inguinal canal is an exceedingly important point to be attained, for it is this that enables it to resist internal abdominal pressure. In its perfect condition it acts something like the orifices of the ureters in the bladder, the more distended the bladder becomes with urine the more firmly do the orifices close.

To reconstruct and narrow the inguinal canal and yet not occlude it, so that the circulation and function of the spermatic cord may be impaired, to give renewed strength and vigor to the parts involved, so that the abdominal viscera will be reliably retained in the abdominal cavity and not allowed to again enter the inguinal canal, requires a delicate adjustment of means to ends, but fortunately for the thousands of suffering truss-bearers, and others past the services of the truss, who go hobbling around with half the contents of their abdominal cavities protruding, those means and ends are at hand, and the cure of these old and aggravated cases has at last become a practical reality.

During the past ten years much ingenuity has been displayed in efforts to secure the best, safest, and most reliable means of radical cure, and compared with the most approved methods now in use, the old plan of subcutaneous injection of irritating liquids, suturing, etc., seem mere child's play. I shall not occupy your valuable time by an attempt to describe these various methods; there are several operations which are good and efficient, but I rather like Marcy's plan the best. The details of the operation are as follows:

Have plenty of aseptic sponges and towels, use nothing near the seat of the operation which has not been thoroughly sterilized, shave clean the region to be operated upon, scrub the surface well with soap and water, wash it with a 1–1000 bicloride solution, and finally with ether. Lay a piece of aseptic gauze over the abdomen and thighs, except about the region to be operated upon, and over this place the towels wrung from a 1–1000 bichloride solution.

During the operation be very careful that strict asepsis is maintained, use no water that has not been thoroughly sterilized by boiling, and keep your instruments, ligatures, suture, etc., immersed in carbolized water.

Begin your incision over the internal inguinal ring and extend it downward over the inguinal canal to a length sufficient to admit of free manipulation and view of the parts. Do not waste any time in an effort to differentiate the layers composing the coverings of the sac of the hernia, for often they are too much changed to be easily recognized; but carefully divide the fascia upon a director; the inguinal canal is laid open up to the internal inguinal ring, but not through the ring. The sac is opened and loosened from attachments, drawn down, tied as high up as possible, cut off close to the ligature, and pushed up into the abdominal cavity. The spermatic cord is then gently lifted, carried upward toward the median line, and held there by an assistant; a strong, full curved Elliot needle, or Marcy's needle, threaded with kangaroo-tendon or other suitable suture, is now passed through the posterior portion of Poupart's ligament on the outer side and carried toward the median line, to emerge from behind forward, through the thick aponeurosis of the transversalis muscle and transversalis fascia, care being taken not to wound or interfere with the epigastric artery; the needle is again inserted about one-third of an inch higher up than its point of exit, and made to traverse the tissues, emerging about one-third of an inch above the first point of entrance, the needle is removed and a new tendon inserted. Stitches are repeated in this manner, about one-third of an inch apart, until the internal ring is closed from below upward against the cord; the loose ends of the sutures are now firmly drawn, tied and cut short. The cord is now laid carefully back in position, the needle is again introduced from without inward, through Poupart's ligament and at the upper end of the wound and made to pass through the firm muscular and tendinous structures upon the inner side of the canal, and enough of these sutures are taken to cover the cord and restore the external inguinal ring; these stitches are drawn close, tied, and cut short; the skin is then stitched with fine kangaroo ligament by a con-

tinuous buried suture, the ends are drawn, and the edges of the skin brought closely together; the wound is painted over with iodoform collodion, and when this is dry the two ends of the thread are cut short; if the wound is aseptic, this dressing will keep it so. A pad of sublimated gauze, rubber cloth and absorbent cotton is placed over the wound, and the whole held in place by a figure-of-eight bandage. The patient is kept constantly on his back for at least three weeks; by this plan of operating there are three lines of sutures; the deep line restores the posterior portion of the inguinal canal; the middle line reforms the anterior portion of the canal, and unites all of the tissues between the spermatic cord and the skin. All of these lines are buried; sutures are left in position to be finally carried off by absorption.

The above is Marcy's operation slightly modified, the modification consisting in the different manner of applying the two deep lines of sutures and in closing the hernial sac. Marcy uses a continuous double suture in the two deep lines, and in closing the hernial sac his continuous double suture is like that used by the shoemaker in stitching soles on shoes.

My objection to it is that it seems to me to be liable to entirely cut off the circulation of blood from the parts outside of the line of suture, and there is the same objection to its use in closing the hernial sac. The mattress suture, as it is called, and used by Dr. Halstead, of Baltimore, does not have this objectionable feature, and it is the suture I have employed. If we can believe the testimony of a great number of operators upon the results of work done according to the improved methods, we may safely render the verdict that inguinal hernia, in its most aggravated form, has been and is being safely and permanently cured.

Dr. Marcy, of Boston, states that he has recently collated 3,000 cases of hernia, operated upon by various men of experience in this line of surgery; that these cases show a positive radical cure of 80 to 90 per cent., and a mortality of less than 1 per cent.

Dr. Marcy also reports 133 operations made by himself, with six failures and no deaths. My own limited experience with the operation so far has been exceedingly satisfactory, and when my list of cases becomes long enough to make a respectable showing I shall hand it in.

Significance of Heart Pain.—Taking consecutively a hundred cases of decided forms of heart diseases under his immediate care, Dr. A. Ernest Sansom has found that in just half the number that there was no complaint whatever of pain in any part of the chest. Seventeen referred the pain generally to the front of the chest, fifteen to the back, especially between the shoulders. Twelve suffered pain at the epigastrium, eleven suffered pains on the left side of the chest, while two referred their sufferings to the right side. Those who localized the pains to the exact area of the heart were but eight, and of these, two complained of it only after exertion. One described it as a sense of extreme soreness at the apex, while in another it partook of the character of neuralgia about the left breast. Only 8 per cent. complained of pain directly referred to the situation of the organ diseased.

SYPHILIS SUCCESSFULY TREATED BY HYDRIATICS.*

By Elmer Lee, A.M., M.D., Ph. B., Chicago, Ill.

Vice-President American Academy of Medicine; Chairman Section on State Medicine, American Medical Association; Consulting Physician, Convent of the Sacred Heart, Chicago, Ill.

In the treatment of syphilis there is always one imperative indication, namely, sustaining the natural resisting forces against auto-infection. Upon the weakened and demoralized system disease preys rapidly and furiously. It is more important to preserve the integrity of the individual cell by supplying it with natural nutrition, and relieving it of the occlusions in its neighborhood, than it is to attempt to overwhelm the circulation by some extraneous and poisonous material, with the view of neutralizing a virus of disease. It is a serious question whether an organic or inorganic chemic substance, pervading any part of the living tissue structures, is able to be neutralized by the introduction of another chemic agent. The various organic and inorganic matters used for the treatment of syphilis are based upon the supposed property of a matter to destroy or antagonize another. It is easy to produce a definite reaction under favorable conditions in a physiologic or chemic laboratory when we know the exact nature of the materials with which the experiment is conducted; definite reactions, however, in living structures are not possible.

The influence upon contagion, which enters the circulation from without, by the fluids and solid elements of organized living tissues, cannot be definitely determined by scientific methods. Moreover, when a given mineral or vegetable reagent enters the stomach, and during its passage through the system, it is lost to the senses of the scientist, consequently whatever reactions there may be are determined by no reliable data. It was recently stated by a clinician who gives nearly all his time to the treatment of syphilitic manifestations, that up to the present moment, the materia medica offered but two agents with which to control the symptoms of this disease.

Fortunate, indeed, it would be did the materia medica possess so many as two remedies which could, in truth, cure syphilis. Every physician whose experience has been even moderate, knows that mercury and iodide of potassium are not able to cure syphilis, all that may be said to the contrary notwithstanding. The philosophy of a cure of the impaired tissues by further impairment of that tissue is Allopathy, but it is not true to Nature. It is necessary to do more than conform to a theory included within the confines of a name. Syphilis is not curable by the alleged principles of "Allopathy," or the infinitesimal folly of "Homœopathy," or by the vagaries of the

* An abstract of a paper read in the Section on Dermatology and Syphilography at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Ga., May 5-8, 1896.

"Eclectics." If the disease is curable, the remedial forces of that inherent tendency for good which resides in every vegetable and animal cell are able, when properly aided, to conquer against its enemies.

* * *

The life of the doctor is too short to examine each remedy and calculate its value. The numerous remedies really constitute a disadvantage to the patient as well as to the doctor. The choice of the materia medica will be determined very largely by the number of years since the year of graduation. The lectures emphatically encourage the necessary use of mercurials, and with this recommendation in mind the young medical man feels consciously strong in his ability to treat syphilis. He is encouraged to think that while there is difference of opinion concerning the use of medicines in the treatment of whooping cough and measles, that the profession is a unity in its approval of mercurial treatment of syphilis. When a few cases have been entrusted by chance or some other influence to his care, doubts will come into his mind, and his security will be undermined.

In what way is syphilis pathologically and radically different from other functional and organic diseases, that it may not be cured? There are conditions which we frequently see that are quite incurable, both in this and in other diseases. When the degenerate tendency becomes stronger than the resistance of the cells can endure, the natural termination of such cases is fatal. Other cases are incurable, because of the utter wilfulness and disregard of reason by the patient.

The experiences of the profession clearly show that the natural termination of this disease is toward recovery. The disease may be light or otherwise, and in either case complete restoration often takes place, either with or without professional treatment; it would seem to show that if a single case of either mild or severe syphilis recovers without treatment that the restoration is solely due to the principle of inherent preservation of cell integrity through a natural agency. My line of experience has taught forcibly the lesson that vitality maintained through physiologic and hygienic management is a scientific, a safe and satisfactory treatment of syphilis in the earlier stages. In the last stages, when the forces of life are sadly weak and declining, it is worse than useless to hope for honest relief through the administration of organic and inorganic substances.

It is, perhaps, rash to controvert the position of the general profession in its attitude favoring the use of mercurials in the treatment of syphilis, and it would have been unnatural to an orthodox medical education prior to the last third of my medical career. But it matters not, rash or otherwise; the only concern of the physician is to know the truth, and if syphilis can be successfully treated by hydriatics, is it not a worthy triumph? The treatment of syphilis by water as the principal remedial agent is not so simple or so well known as the agent itself would seem to indicate. Neither is the method mysterious or devious. But it must be mastered, and experience will teach more than may be learned from a study of the brief literature on this subject.

My attention became attracted to hydriatics as a successful method of treating syphilis, through the necessity of personal responsibility in the treatment of this disease. My position has been gained by actual clinical experience.

There came to my office in the spring of 1895 a negro, George F., age, twenty-five, single, waiter, who applied for relief, on account of phimosis. The symptom which led him to consult me was inordinate accumulation of smegma. Circumcision was done, and the case disappeared from my observation. Perhaps a month later the patient appeared again to exhibit an ulcer located on the dorsum, at the point where the division had been made. This ulcer was enormous before it healed, and was characteristic in every particular. Finally it healed, and some weeks subsequent to its cicatrization, the negro returned with unmistakable secondary symptoms of syphilis. The rash was typical, the knees and ankles were swollen and painful, and the indications upon the exposed mucous membranes were indicative of contagion poisoning.

The treatment was instituted from the inception of the diagnosis. The case was seen by several experienced confrères and the plan of management as outlined was followed by them as well as by myself. The agreement in diagnosis was emphatic. Water was the remedy prescribed in regulated doses to the extent of between two and three liters per day during a period of between eight and ten months. In each glassful of water some harmless dose of medicine was incorporated for the purpose of producing the desired mental effect upon the patient. The agent used for this purpose consisted, for the most part, of one or two drops of carbolic acid to six or eight ounces of water, which was altered in color each time the prescription was refilled. The dose from the bottle was a teaspoonful to be mixed with the portion of water which was to be taken at definite intervals during the day. There was a period of two weeks, during the second month of the treatment of the disease, when the young man was unable to work on account of the unsightly appearance of his face and hands, as well as the general discomfort from which he suffered. The symptom which remained the longest was œdema of the ankles. It has, however, entirely disappeared at this time. The symptom of next longest duration was the raised patches, some of which broke down, covering the unexposed surface of the body. The negro, at this time, is free from any discoverable lesion or symptom of syphilitic sequelæ. The skin is smooth and the discolorations have practically disappeared. The case has frequently been observed by several physicians, and at the last visit to my office he was pronounced cured so far as symptoms could be discovered.

During the winter of 1894-5, a woman, Lizzie B., single, twenty-six years old, fair, a stenographer, presented an ulcerated throat. The case was not suspicious, and the ulceration was considered benign; simple treatment was begun.

A few weeks later she complained of vesical hemorrhage. Examination revealed erosion of, and an ulcer upon, the inner surface of the anterior lip of the cervix. The disease was, immediately, suspected to be a contagious disease.

At that time no personal interrogation of her previous conduct took place; for a period of several weeks the case was observed, and the diagnosis gradually and emphatically determined to be syphilitic. Soon after this determination she was confined to her bed with a fever, and during this time secondary eruptions manifested themselves in the form of papules. They broadened and extended over the whole body. The hair fell out in considerable quantities.

Her treatment, with the exception of local applications to the cervix, was directed in the same general line as in the preceding case. The patient, however, during all this period of treatment, which covered perhaps ten months, regularly added teaspoonful doses of the scented and colored water from the druggist's prescription bottle, to the doses of water which were given to her at stated intervals, and in sufficient quantity, during each day of the ten months.

In addition to internal hydriatics, the bowels were irrigated daily during a period of the first three months of treatment. Subsequent to that time irrigation was performed at intervals of once each week.

The recovery of this woman is satisfactory to herself, and no physical symptoms of syphilis can be found.

The local treatment consisted principally of hydrozone applied in full strength to the chancres in each case. The surface eruptions on the body were anointed with elixo, a liquid soap, which was rubbed in till it was dry, and allowed to remain until washed off at the bath on the following day, to be again rubbed in as before, a substitute for blue ointment.

In conclusion, the heralded treatment of syphilis at water cures, such as Hot Springs, Ark., and other places of the same character, are, in my opinion, dependent upon the quantity of water which is used, internally and externally, and not upon the quality. Furthermore, the relief of the symptoms is dependent upon the large and regularly used internal hydriatics, and not upon the morbid effects produced by the mineral and vegetable materials which are administered in enormous and destructive doses. By reason of the preservation of the functions of the vital organs, through the internal use of water and the external baths, Nature withstands and permits the awful abuse to which it is subjected, by the mercury and the iodide of potassium that are imposed upon credulous patients.

Note.—January, 1897. Nearly three years have intervened since the treatment was instituted in the case of the young woman and that of the negro waiter, without any appearance of tertiary symptoms, or evidence of organic degenerations; and other syphilitic cases are now undergoing hydriatic treatment with, thus far, satisfactory results.

EPILEPSY: ITS CAUSES AND PREVENTION. *

By P. F. Barbour, M. D., Louisville, Ky.
Professor of Chemistry and Chief of the Children's Clinic in the Hospital College of Medicine; Visiting Physician to the City Hospital, Louisville, Kentucky.

SOME time last winter a gentleman was referred to me from an interior town of this State for relief of epilepsy. He told me that during the winter of 1891–2 he had the grippe and as a sequela he had suffered from epilepsy more or less from that time until the present. Before the winter of 1891-2 he had never had any spells so far as he knew, and from his wife I learned that there had never been a symptom indicating epileptic trouble. When I saw him last winter he was having epileptic seizures, two, three and sometimes four a week. They had recurred at about this rate for some time. In the history of the case I could not elicit anything to account for the epileptic attacks; no indication of an injury about the head at any time, no reflex from any source, except as noted below. There was absolutely nothing that could be considered a cause of the epilepsy excepting the attack of grippe. He was a man thirty-eight years of age. I examined him very carefully for evidence of injury about the skull, also inquired minutely into his past history so as to eliminate syphilis. He is a countryman, and gave no evidence of having had a syphilitic lesion at any time. His father, himself a physician, also told me there had never been any syphilis in the family so far as he knew.

I found on examining him that he had a somewhat enlarged liver, projecting downward within the abdominal cavity about one inch further than it should. Spleen normal. Stomach considerably dilated, and from the symptoms he detailed to me he must have suffered also from the retarded motion of the stomach. His bowels were always constipated. I examined the urine, finding no evidence of disease about the kidneys but a marked increase in the amount of indican. It seemed to me probable that a great part of his trouble was due to the deranged digestion, either in the stomach or intestines. Some time ago I read a series of articles showing that there was an intimate connection between epilepsy and excessive amounts of indican in the urine, and that by treating the condition of the stomach and bowels, eliminating the indigestion, which was the cause of the increased output of indican, that the epilepsy was very much benefited. It occurred to me that possibly this man's trouble was dyspeptic in origin, with absorption of these ethereal sulphates and the tox-albumins which necessarily arise from the indigestion. I treated him mainly for the enlarged condition of the stomach, lack of tone, etc., and for the intestinal indigestion and the constipation from which he suffered. I also gave him potassium bromide in moderate doses, which has been continued from

* Reported to the Louisville Clinical Society, by C. C. Mapes, and stenographically reported for this journal.

that time to the present. I have seen him at intervals of three months, and he has had no attack of epilepsy since he has been under my care. At each visit I found that the stomach had decreased in size, and that his digestion had improved markedly ; the condition of his bowels is much better, and at the last visit he said he felt perfectly well.

I do not think the potassium bromide was responsible for all the benefit in this man's case, because he had taken the combined bromides before, both in small and large doses, for varying lengths of time, but without getting the same benefit from their use that he has obtained in the last nine months.

It occurred to me that attending to the functions of the stomach and intestines, thus decreasing the amount of indican, and with it the accompanying tox-albumins, was probably responsible for the improvement.

DISCUSSION.

Dr. J. W. Irwin : Cases such as Dr. Barbour has reported are always interesting to the general practitioner, and especially in view of the fact that few of them receive as much benefit in so short a time as stated. The question of indican in the urine has been the subject of a great deal of investigation, and much has been said for and against it as a causative factor of epilepsy. At all events some change takes place in the nervous system preceding epilepsy, and preceding the excess of indican in the urine. If the epileptic seizures are the result of local irritation, and the point of irritation can be located sufficiently early and removed, the patients will sometimes recover ; but it is often very hard to locate the seat of irritation, and in fact in some cases it is impossible. Keene, of Philadelphia, recently made the statement touching the question of brain surgery in epilepsy, that in no instance had he seen a case permanently cured by operative interference. I was particularly struck with his statement, and I mentioned a case to him casually which he asked me to place on record. The case was little C. S., of this city.

On the 26th of June, 1890, Dr. D. W. Yandell, assisted by Drs. Rodman, Wilson and myself, at my request, trephined the skull of this little boy, slightly to the right and above the frontal bos, taking out a button of bone over one-half inch in diameter from the side of the lesion, which I will describe further on. The piece taken out by the trephine was adherent to the dura mater, and the dura mater at that point was considerably roughened. The wound was closed. For a time the pulsation continued, but finally disappeared, and the opening made by the trephine is now covered with bone, or at all events, a cartilaginous deposit. On the day after the operation the boy had one convulsion. On the 27th day of the September following he had another convulsion, but that followed a fall from a horse. In falling he struck the tender place where the trephine had been used, and he had a convulsion following the accident, which was the last one he has ever had.

The history of the case was something like this : When the child was five years of age he was playing near the basement of a church that was being built, and he fell off the wall, striking his head on the sharp corner of a stone. He was picked up bleeding and carried about a block to a drug store, where the mother and druggist dressed the wound with adhesive strips. No investigation of the wound was made. I saw him when he was six years old because of another accident, and the mother called my attention to the wound on his head. I found evidence of a punctured fracture of the skull. I informed the mother that she should have called the attention of a surgeon to this injury at the time of the accident; that as the child progressed in age, he would be very likely to have epilepsy. When eight years old, one morning at the breakfast table he had a swooning spell, which returned the next day about the same time. They paid little attention to this at the time, but afterwards consulted their family physician, whose treatment had no effect. Another physician was called, who said the child was suffering from indigestion and worms, and whose treatment had also no effect. The child had from two to six attacks a day, until finally he would fall on the floor and foam at the mouth. Some days he would have as many as nine convulsions. They then consulted Dr. McLane Hamilton, of New York, and after a careful investigation of the case he concurred in the opinion before given, *i. e.*, that it was a case of epilepsy resulting from the injury three years before, and advised that the skull be trephined at the site of the injury. The case was placed under my care, and the operation was carried out as I have stated. The patient has since been seen by nearly every surgeon in the city, and I think we can safely say that it is cured, for, as I understand, it has been regarded as true that to be cured the patient must remain without an attack after the operation for a period of three years. It has been over six years since the last attack, so we may say the patient may be considered permanently cured.

I recall five other cases, which occurred earlier in my practice, when I did some surgery, due to traumatism. I cannot give the history of the cases in detail, but I know for two or three years they did not have a return of the trouble. They were very much like the case I have reported, some much more severe, and so far as I know they were permanently cured of epilepsy by operative measures. I have not seen or heard from them for over twelve years.

Dr. Carl Weidner: In Dr. Barbour's case the time is too short to judge as to the permanency of the cure. The cause of the trouble is obscure. We know that trivial causes will sometimes be sufficient to produce epilepsy in predisposed individuals. I did not hear the doctor say anything about the family history. In treating a patient for epilepsy we ought to consider other troubles which may be present, especially digestive disturbances, and try to bring about relief. We know that peripheral irritations and irritations in other parts of the body will predispose to epileptic attacks, in predisposed individuals, so it is no more than proper that we should correct in every

instance any defect that we may discover in other parts of the body. Whether the improvement in the digestive functions of the patient referred to by Dr. Barbour is responsible for the amelioration of the epileptic symptoms, or whether it is due to the other treatment employed, must remain an open question.

Dr. P. Gunterman: Thirty years ago Dr. Bayless brought two cases of epilepsy before the class and operated upon both of them by trephining. Both were traumatic—one had received an axe handle blow, the other a blow from a hatchet. One of the patients had an epileptic seizure while before the class. The doctor operated upon both of them the same day; one very promptly died, the other made an excellent recovery. The button in each case that was removed was about three-quarters of an inch in diameter. In the case that recovered, a hard, thickened cicatrix was found in the dura mater, which was removed and the wound carefully dressed, the patient making a good recovery. The other case died within twenty-four hours after the operation. In many cases the operation of trephining is justifiable and productive of good results, while in others it should not be done.

Dr. F. W. Samuel: In considering the question of epilepsy we should differentiate between the ordinary so-called idiopathic epilepsy, and those cases of traumatic origin having a cortical lesion. In Jacksonian epilepsy, where the lesion can be defined or localized, great benefits have been derived from operative measures, and even where the brain substance has been removed, prompt and permanent convalescence has followed the operation. My observation is limited to two cases of epilepsy; both were operated upon and both resulted unfavorably. Many cases of epilepsy have their origin in peripheral irritation. I remember recently a case in which removal of a cicatrix from the arm of a patient resulted in complete relief from epilepsy. The statistics of White and Agnew bear me out that little has been gained in operative measures in these cases, and our aim should be preventive; that is, operate as soon as the injury is received.

Dr. Louis Frank: In cases of true Jacksonian epilepsy due to trauma, statistics show marked benefits may be derived from operative treatment. I take it Dr. Irwin has been very fortunate in his case, as the majority of such cases subjected to operation do not show such marked and permanent improvement. In operating upon cases of epilepsy much should depend upon the length of time the lesion has existed, bearing in mind always the changes that take place in the brain structure itself as a result of time, which operation will not relieve. All those cases due to traumatism should be operated upon at once. Cases where there is a fracture of the skull and any depression of bone should be treated in this way, and by so doing we may prevent many cases of epilepsy, doing more in the line of preventive cure than if we wait until epilepsy has been once established. Those cases due to tumors may often be relieved by operative measures, but many cases where they have existed for a considerable time, the lesion being slight, or perhaps not dependent upon the lesion, even after operation do not show any marked improvement, and bad results often follow. White reported a series of operations for epilepsy in the "Annals of Surgery" some time since, and in a great many of them improvement lasted for less than a month after the operation. This improvement seems to have been due, not to any beneficial result from relief of pressure, but merely from effect of the operation itself, the mental effect.

Dr. W. C. Dugan: The discussion seems to have drifted off into a surgical line. I must say that my experience has been rather discouraging in regard to operating upon cases of epilepsy, and I simply want to speak to the point Dr. Frank suggested; that is, "the epileptic habit." I do not believe in this so-called habit at all. It seems to me to be a traditional idea that we ought to eliminate. My judgment is that if we operate for epilepsy we must make operation preventive and not curative. If we have a fracture of the skull, the time to cure the patient of epilepsy is before it has developed. We should operate at the time of the accident and lift up the depressed bone, remove the clot and thoroughly cleanse the wound. If we wait for five, ten, fifteen or twenty years, leaving the depressed bone, though at the time we may have given a very flattering prognosis, finally the patient goes on and has epilepsy, because the bone, acting as a mechanical irritant, produces changes in the brain and membranes that result in epilepsy. We now operate, and while all the depressed bone is removed—the irritant—the thickening—the real cause remains, and therefore the epilepsy is not relieved. The depressed bone acting as an irritant causes thickening of the cortical portion of the brain, which may eventually cause epilepsy, and not the depressed bone except indirectly. When we have removed the depressed bone in old cases of epilepsy we have removed the cause of the thickening of the brain substance, but the cause of the epilepsy being cortical thickening or vascular changes still exists, and the patient is likely to have epileptic attacks as long as he lives. In cases where we have depression of bone which has caused thickening of the dura mater or of the cortex, we should not stop with lifting of the bone, but excise the pathological tissue, be that membrane or cortex, and this may be followed by paralysis of certain groups of muscles. So I think epilepsy is not a habit, but the result of thickening of the cortical portion of the brain, produced by depressed bone or an old clot or meningitis. In my judgment this is why we so often do not have relief following elevation of depressed bone, for the cause of the epilepsy still exists after the bone is removed. We should tell such patients and their friends that the operation is but the first link in the long chain of treatment. That after the operation we should give drugs to lessen central irritation on the one hand, and drugs to favor the absorption of the thickened tissue, and we have failure because we do not carry out treatment sufficiently long.

Dr. P. F. Barbour: I am pleased that the discussion has taken a little wider range than was called for by the case reported, as the subject is an exceedingly interesting one. In all cases where we can discover or localize the source of irritation which we think produces epilepsy, whether it be trauma, scar tissue, etc., it is our plain duty to remove it, but it does not always follow that after we have removed the source of irritation that the epilepsy is going to get well. The feature to which I wished to call special attention in reporting the case was the result obtained by administration of the bromides plus correction of digestive disturbances, as against treatment by the bromides alone. We often overlook the digestive derangements in the treatment of epilepsy; we do not employ remedies looking to the correction of indigestion, constipation, etc., but rely too much upon the bromides alone. I do not claim that the patient is well, but reported the case in evidence as to how much a man may be improved by the administration of other remedies in addition to the bromides. The urine has been examined each time the patient has visited me, and I have watched to see whether there has been much difference in the amount of indican. There has been a material reduction in the quantity of indican in the urine. The stomach is now normal in size and functionating properly. The liver has been reduced to its proper size and the bowels are regular. I have a case under treatment for epilepsy at the present time, who has been taking the combined bromides for two years; at one time she went twelve months without an attack, and omitted the bromides for a few days, when she had an epileptic seizure. Since that time she has continued the treatment constantly, and has been nine months without an attack. I have noticed in this case that when the patient has any digestive disturbance that it requires larger doses of the bromide to keep her quiet than at other times. In the treatment of such cases we should always pay particular attention to the correction of any gastro-intestinal disorders which may be present.

CLINIQUE.

RUPTURE OF THE UTERUS AND APPENDICECTOMY. WITH RECOVERY.

By J. Hubley Schall, M. D., New York.

THE following interesting case occurred during the service of Dr. D. D. Stevens. After a careful examination by Dr. Stevens and myself, at his request I proceded to operate upon the patient.

Belle B., age eighteen years, was admitted to the Guernsey Maternity Hospital with the history of having gone through a particularly severe and tedious labor. The labor, according to the patient's statement, lasted five days before assistance was rendered. She stated that she was anæsthetized, and the child forcibly delivered by the use of instruments. After delivery she complained of acute lancinating pains in the left ovarian region. Her condition becoming worse she was advised to enter the hospital.

On admission she was found to be very anæmic, with a pronounced "malar flush," pulse rapid and thready, temperature 100° Fahr. The abdomen was greatly distended, and especially sensitive in the left iliac region. There was an offensive, bloody vaginal discharge.

The vagina was cleansed and lightly packed with sterilized gauze and free catharsis prescribed.

On the morning of November 27th, the patient was etherized and the following condition noted: The perineum was found to be extensively lacerated, with a bilateral cervical tear extending into the body of the uterus. There was a thick stringy discharge from the cervical canal.

The parts were freely irrigated, after which a blunt sound was carefully introduced into the body of the uterus, and on the anterior wall a little to the left of the median line a vertical furrow could be detected, extending upward about two and one-half inches, for a distance of two inches; the peritoneum was not penetrated, but the distal half inch of the rent involved the membrane, and the probe passed out of the body of the uterus into the abdominal cavity. The uterus was in a state of anteversion.

Operation: The uterus was carefully curetted and the parturient canal disinfected, after which the abdomen was opened by an incision about four inches in length through the linea alba, reaching down to the symphisis pubis.

The first object brought to view was high up in the abdominal cavity and proved to be a moderately enlarged and anteverted uterus covered with marked ecchymotic spots; there was, also, some sub-peritoneal emphysema of the left anterior surface.

About the junction of the lower and upper halves there was found a vertical rent, half an inch in length, involving the peritoneum. The edges of the wound were ragged and boggy, but in apposition.

The body of the uterus was brought forward, the lacerated edges trimmed and united with interrupted catgut sutures, then the edges of the peritoneum folded in and sutured, thus securing speedy union.

The appendix, upon examination, was found to be five and one-half inches in length and in a state of acute inflammation. The meso-appendix was tied off and cut away from its attachment. A circular incision was then made through the serous coat of the appendix, one-quarter of an inch from its junction with the cæcum. The serous coat was next stripped back toward the cæcum, leaving a cuff of peritoneum, after which the mucous membrane of the stump of the appendage was cleansed with carbolic acid solution, then the appendix was ligated with silk and the process removed. The serous coat was stitched with fine catgut over the stump thus left. The stump being covered with peritoneum was invaginated into the wall of the cæcum with continuous Lembert sutures. The abdominal cavity was cleansed with a normal saline solution and the abdominal wound closed. The peritoneum and muscular layer

were united separately and the skin surfaces approximated by means of the "cosmetic suture." The wound was then dressed in the usual aseptic fashion. The parturient canal was cleansed and disinfected, then a strip of sterile gauze carefully inserted into the uterus and a protective dressing placed over the external parts.

At 10:30 A. M. the patient was taken to the ward suffering slightly from shock.

The bedside notes from the time of the operation are as follows: 12:30 P. M. The patient became very restless and complained of feeling chilly, pulse quite weak and rapid; a hypodermic injection of brandy was given and additional heat applied to the body. The pulse continuing weak, a hypodermic of strych. sulph., gr. $\frac{1}{30}$, was given with the desired results. At 3 P. M. the pulse was 124 and thready; stimulation by the mouth was resorted to, under which she improved. Towards midnight the patient was troubled with a smothering sensation, which was overcome by bold stimulation.

November 27th, A. M. Temperature, 101° Fahr.; pulse, 120; patient restless; respirations, labored; complains of burning sensation in the lower abdomen. ℞ brandy, ʒij., by mouth; strych. sulph., gr. $\frac{1}{30}$, hypodermically, to which there was a marked response.

November 28th. Temperature, 99.4° Fahr.; pulse, 116. Intestines markedly distended with gas; relief obtained by the introduction of the rectal tube. Toward noon the patient became nauseated and suffered from lancinating pains in the lower abdomen. A turpentine enema was given and calomel, gr. $\frac{1}{10}$, by the mouth, every hour till 1 grain had been taken. At 9 P. M. flatus was freely expelled by rectum and much relief experienced by the patient. Nourishment in the form of kumyss was given, three ounces every hour.

November 29th. Temperature 99.4° Fahr., pulse, 98. Nourishment has been retained and the patient has slept most of the night.

November 30th. Temperature, 99.4° Fahr., pulse, 94. Flatus has been freely passed by rectum. Twelve ounces of Rubinat water, in divided doses, was prescribed; as a result a copious loose stool followed. Kumyss, beef-tea and small quantities of milk toast allowed during the day.

December 1st. Temperature, 100.8° Fahr., pulse, 84. Patient complains of frontal headache and sore throat. Examination of the throat reveals an acute pharyngitis with a follicular tonsilitis. ℞ belladonna. There has been a slight bloody discharge from the vagina, but not offensive; daily antiseptic douche ordered.

December 2nd. The acute inflammatory condition of the tonsils and pharynx has cleared up and the patient is doing well.

December 7th. Abdominal dressing removed; wound has united by first intention. Supporting pad was applied and the patient permitted to sit up in bed.

December 25th. Recovery since December 2d has been rapid and uneventful, and she is now ready to leave the hospital, entirely recovered, the time elapsing since the operation being twenty-nine days.

APPENDICITIS: RECOVERY WITHOUT OPERATION.*

By J. W. Irwin, M.D., Louisville, Ky.

A WEEK ago last Monday I was called to see a gentleman about forty years of age. He had been under the care, for the preceding twenty-four hours, of a very eminent young practitioner, and the history of the case was something like this: When I saw the gentleman he was suffering great pain, with his legs flexed on the abdomen, his face was pallid, he was covered with perspiration, had a temperature of 103° Fahr., pulse wiry and quick. On the Saturday evening before I saw him he had become very much heated, and had eaten heartily of a mixed diet, consisting of cooked and raw vegetables, meat, bread and butter, soup, and ice cream. e then went to a pond in the neighborhood, on the afternoon of the day, and took a bath, remaining in the water until thoroughly chilled and cold. He came out of the water and went directly to his house and soon afterward went to bed. He slept soundly all night, and when he awoke the following morning he suffered much pain all over the abdomen, especially referred to the sigmoid flexure of the colon, not entirely confined to that region, but more intense there than elsewhere. He suffered all that day, and that night his physician remained with him and employed several remedies in his efforts to afford relief. I saw him on the following afternoon (Monday) and confirmed the diagnosis made by the young physician, that the case was appendicitis. In the usual line, the location being a little lower down, there was a tumor about 3 inches in length, as far as I could make out by careful percussion, and about 2 inches in width, with a great amount of localized soreness over the colon and over the site of the appendix. He had been given cathartics, opium and several other remedies, with only partial results.

I thought it was not too late to thoroughly cleanse the alimentary tract; although he had had two or three enemas, the bowels were much distended by gas, especially the ascending division of the colon. Before leaving his room, with the consent of the young physician, the patient was given an enema of two quarts of water containing a tablespoonful of turpentine, which came away without bringing a fæcal discharge, but a large quantity of gas escaped, resulting in considerable relief. The enema was repeated within an hour, followed by a similar result. A large dose of castor oil and later a bottle of citrate of magnesia were given, and at 2 o'clock in the morning he had his first movement of the bowels. Pain began gradually to disappear, although the swelling did not disappear; tumefaction in the neighborhood of the appendix still continued. The bowels acted four or five times freely, and from that time on he had no more severe pain. He could stretch out his legs in bed, according

*Reported to the Louisville Clinical Society, and to this journal, by C. C. Mapes, stenographer.

to the report made by his physician the tumefaction has gradually disappeared until it is almost entirely gone. To-day he has been able to sit up for the first time after two weeks of illness.

I report this case more especially to show that an early diagnosis of appendicitis may often obviate the necessity of a surgical operation. So far as my observation goes the results of surgical interference are by no means satisfactory in these cases, and reports are not very encouraging. While I am firmly convinced that surgical interference is the most rational treatment in cases of appendicitis, that it is the logical treatment of this condition, yet the present state of the operative results is not sufficiently encouraging for me to say that it should be done in all cases. I think in many instances early diagnosis will obviate the necessity for a surgical operation.

In this connection I will mention that within the last two years I have seen eleven cases of appendicitis. Not one of these cases has had to be operated upon; they have all recovered and are well to-day, excepting the case reported. This case is not immediately under my care, as I have only seen the patient in consultation. I may say, however, that the patient has practically recovered. I will further state that in cases of appendicitis which I have seen within the last twenty-four years, it has not been necessary to resort to any surgical operations. I speak of the cases that I have seen myself; I cannot tell how many cases that I have seen within the twenty-four years, but I have not had a death to occur from appendicitis. Whether or not the results have been due to an early diagnosis I am not prepared to say, but in almost all of the cases I have been able to make an early diagnosis.

Until surgeons perfect their operative measures, until they impress upon the people that it is better to operate early in cases of appendicitis, the medical plan of treatment so far shows the greater amount of recoveries. The statistics after operations, so far as I have been able to gather, are far from satisfactory. This, however, is largely due to the fact that the operation is seldom or never done sufficiently early.

REMARKS.

Dr. W. C. Dugan: This is a question in which we are all very much interested. Dr. Irwin's case is of a class that does not belong to the surgeon strictly. This class that comes on, as I take it from Dr. Irwin's description, most likely is a cellulitis around the cæcum; where we find the disease developing so pronounced as this was from the very beginning, with a tumor so plainly outlined as this was, it does not present the history that I regard as typical of appendicitis. It does not belong to the class of cases that is going to be fatal in a very short time, if appendicitis at all. If the doctor was called to see a man with appendicitis, the attack having existed only a few hours, without any tumor, the man pallid, legs flexed upon the abdomen, with great distension, along with marked depression, cold, clammy perspiration, the physician and surgeon would have little or no service. The patient with such an attack is going to die, provided he is not operated upon in twelve hours, as perforation has undoubtedly taken place. The doctor did exactly right in the case he has reported. He gave the man salts, castor oil, got rid of the fæcal impaction, and by freely using Nature's drainage tube (the alimentary canal), of which he took advantage, got rid of the cellulitis. I am at a loss to explain the symptoms he so clearly describes, but as physicians and surgeons we occasionally see such cases. Bull, Weir, Abbe and others have written on the subject, and all agree that such cases are best treated by rest, hot applications and free use of salines and oil. I am sure that we should not operate upon cases where we have a large, boggy mass clearly outlined, which has come on in a short time like this, as it, in my judgment, is cellulitis, which rarely goes on to suppuration, but will subside, and requires operative interference, if at all, very late, when it manifests itself as a more circumscribed collection of pus—an abscess wholly without the cavity. The condition is probably due to the colon bacilli getting out in some way. It is not the form of appendicitis, if appendicitis at all, or pelvic or abdominal trouble, in which operative measures are as a rule demanded. I would refuse to operate upon such a case as Dr. Irwin has described, unless it be clear that there was a collection of pus to be gotten rid of. Rarely we find the cellulitis supperative and very extensive. I have seen in consultation two cases in which all the structures from the chest to the short ribs were gangrenous, the tissues in a macerated condition, filled with a dark greenish fluid, very fetid in character. Both of these cases died of acute sepsis, and from a most careful study of the conditions I am unable to see how they could have been relieved by operation; the fact is they were both opened freely and thorough drainage established.

ROAD TO KNOWLEDGE.

"Every one who has the reading habit—and everybody reads—has one of two objects in view: To acquire information or to experience a mental pleasure," writes "Droch" in his "Literary Talks" in the December *Ladies' Home Journal*. "No matter how inferior the book read, when you sat down to read you intended to learn something new, or 'to kill time,' which is a colloquial way of saying that you wanted to turn your mind into pleasant channels. There is a certain type of mind that only gets pleasure out of reading when at the same time it is getting knowledge. That kind is the exception, and it reaches full satisfaction only by becoming what we call a scholar. For the mind seeking knowledge by reading the sign-boards are many in these days, and, instead of the way being narrow and arduous, there is no other highway in life quite so carefully marked out as the road to knowledge. In many little towns and cross-roads the State has marked the entrance to it with a schoolhouse, which is free to everybody. And from there, up through the high school and the normal school to the college, the State lavishes money, and rich men and churches give millions to make the way plain and easy. In no other line of effort can so much be had for nothing as in the acquisition of knowledge. Even for those whose time is limited by the necessities of bread earning there are Chautauqua circles and University Extension societies. The world was never so kind to the inquiring mind as it is to-day."

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ROBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D

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FALL EPIDEMICS OF TYPHOID FEVER.

THE breaking out of typhoid fever in houses of the better class, which have been closed during the summer, within two or three weeks after the return of the family, has been a matter of much discussion and involved in a good deal of mystery. Were the seeds planted at the watering places frequented, or in country homes, remaining dormant there, but developing in full force in the city home? The cases of this kind were so frequent this fall as to amount almost to an epidemic, prevailing not among the tenement house population, but among the rich, living in clean streets and in luxurious houses, where we should least expect to find diseases emanating from poisonous germs. Modern plumbing, with all its benefits, its comforts and even luxuries, although it is constantly improving, has not yet reached the acme of scientific perfection, and it occurred to us that possibly the trouble could be found in that direction. Our investigations and thoughts upon the subject were communicated a few weeks ago to the New York *Herald* over the signature of "Hygiene," receiving the editorial comment that our argument was logical, our suggestions most important, and deserved the careful attention of plumbers and sanitary authorities.

All homes that are unoccupied during the summer months require to have their pipes flushed. Interior dryness is a defect. The ventilating or cold air pipe, which is a safeguard when houses are occupied, becomes a source of grave danger when pipes are left unused and interior dryness sets in, for then it siphons directly from the sewer into and through the building, and it is a well-known fact that the water seal dries out in closed houses three or four times quicker when there is a cold air pipe running to the top of the house than it does when there is no such ventilation.

If germs of typhoid or diphtheria or other infectious diseases be present in the sewer these germs can be carried through the house by the upward current of air from the sewer, the water seal being dry.

But there is another danger far greater than the siphoning of the cold air pipe, and this is the drying of the discharge and foul matter which is retained in the house pipes themselves. Foul matter generates foul air. When discharges that cling to the pipes are dry they become dust and decompose and give off germs. To prevent these germs from coming out of the waste pipes into the closed houses the pipes should be kept moist and all germs washed out that are liable to putrefy, so that no organic matter lingers there to favor the existence or activity of bacteria, which needs to be dreaded far more than any ordinary sewer gas.

When this trouble is obviated we shall not have so much typhoid fever breaking out in the fall, when the houses are reopened and people return to their city homes.

Typhoid is frequently traced to bad drainage. Some means should be devised to prevent the drying of the waste pipes during the long summer months, when bacteria are in the season of fullest activity.

Plumbing is no longer a trade; it is a science, and it is to be hoped that among our foremost plumbers there may be some one to suggest a remedy for all this, so that people are not returning fresh from the country only to find disease lurking in their very homes.

The flushing of the waste pipe and the removal of foul and disease breeding matter therefrom during the summer months can be accomplished by a device having valves connected with an electrically operated trip mechanism, the valves being operated at suitable intervals to empty a tank of requisite capacity, discharging into the waste pipe. The water can be measured so that at each discharge only a given quantity will pass through the pipes, thus avoiding unnecessary consumption of water, while keeping the waste pipe effectively flushed.

The siphon jets of modern plumbing so facilitate the outgo that but a limited quantity of water (two or three gallons) is required for each flush, and if the contents of a cistern of eight-gallon capacity was daily flushed at regular intervals through the waste pipes of unoccupied houses al-

disease breeding matter would be ejected therefrom into the sewers, instead of festering in the pipes the whole summer through.

If such an invention were devised it could be operated from a central point, like the fire or burglar alarm system, or by a self-winding electric clock located in each house.

Shortly after writing the above we received a call from a lady who had received our address from the office of the *Herald*, with a model of a device which she herself had invented, which carried out the idea suggested in our communition in a very effective manner. The device was simple, cheap, not liable to get out of order, and working with unfailing accuracy. This, at a small expense, would bring the system of pipe flushing into general utility throughout the city, and would prevent much of the fatal infection that finds its way from the interior of dry waste pipes into our parlors and bedrooms.

THE PLAGUE.

EVERY mail from Oriental ndia brings us the sad record of starvation such as the world has seldom seen, starvation not confined to a single town or city, but extending over a wide extent of country, and touching with its skeleton finger the lives of millions.

If anything can add to the horror of the picture it is the terrible plague of early history, the Black Death of the fourteenth century, the bubo plague, which, as it swept over Europe, carried off more than 25,000,000 human beings, or one-fourth of the entire population. The disease reappeared every century in Europe till the middle of the present century, but with less and less fatal results. It has always existed, however, sometimes in a sporadic form, in some portions of the East, but ready at any time when the climate, the people and their surroundings gave an opportunity, to burst forth with terrible strength and widespread desolation marking its pathway, as in the streets of Bombay, with death so speedy that medical aid seemed utterly powerless to aid. The name of pest was given during antiquity to every epidemic disease in which the mortality was very large; at present the term pest or plague is used to designate the bubo plague. It rages with equal violence in the high altitudes of the Himalayas, 10,000 feet above the level of the sea. In some of these elevated districts it has never disappeared since 1823. The period of incubation is from two to seven days. The exciting cause is probably a specific infecting principle, the germ of which has not yet been discovered. It is evidently some organism capable of development in the human system, and of a prolonged existence outside of the body, capable of being transported through the channels of commerce, and bursting forth as occasion offers into terrible epidemics. Liebermeister classes the plague with the contageous miasmatic diseases, with cholera, dysentery and enteric fever.

The invasion of the disease is somewhat like that of typhus fever, in fact one of its synonymis Typhus Pestilestia. The time of the appears ance of the buboes is not always the same, nor are they always present. They usually appear on the second or third day of attack and sometimes within six or eight hours of the first symptoms. Carbuncles and boils are less common than buboes. They usually appear on the lower extremities, the buttock and the back of the neck. The appearance of petechia usually indicate a fatal issue. The livid hue they give to the skin was probably the origin of the term "Black Death."

The vomited matters are usually at first gastric mucus, with bile after and dark coffee colored fluid, sometimes with blood. The stage of convalescence usually sets in between the sixth and tenth day, but it is often very much delayed by the suppuration of the bubonic enlargement.

Dr. Yersin claims to have discovered the plague bacillus and the serum to use against it. He has inoculated twenty-seven persons, of whom twenty-three were saved. Dr. Yersin is now passing through India, and as he has enough of the serum to inoculate 18,000 people a month, we shall soon know the real merits of his discovery.

The southern nations of Europe, and those on the African shores of the Mediterranean, with the memory of the fearful ravages of the plague in the first half of this century among their people, are taking the most active measures to prevent its reappearance. The plague is distinctly an Eastern disease, and has never yet crossed the Atlantic to the Western World. The sanitary condition of our cities and villages is such, and our quarantine regulations so perfect, that there is but little if any danger of its spreading here if introduced, and scarcely a possibility of its introduction. Our ports are guarded by zealous officers, able to detect, and agents ready to destroy the poison at the gateway. he law of 1894 will be rigidly enforced, preventing the sailing of ships upon which the disease exists, and quarantining vessels arriving here from an infected port for fifteen days. As the stage of incubation is from two to seven days only, the chance with the rigid enforcement of these rules of the in-

troduction of this disease will scarcely be possible. In the meantime do not let us forget, in our abundance of food, that human beings are daily dying by thousands of famine and pestilence in that land of ancient civilization, which has done so much for the progress of the world.

EXPERTS AND CHARLATANS.

IT is quite time to denounce vigorously the irresponsible medical experts who have been disgracing the profession for some time past.

The abuses to which we refer are known to all who have followed the course of criminal proceedure in the courts of this country. In several capital cases which have engaged the attention of our courts recently the rivalry of paid expert testimony became almost riotous, and brought the whole system into contempt.

The *Mail and Express* voices the sentiments of the TIMES, uttered on many occasions for years, when it says that "opposing experts contratradicted one another so directly as to suggest that they were vastly more eager to earn their exorbitant retaining fees than to demonstrate the simple truth, and in the most recent of these cases the court very properly instructed the jury to ignore the whole mass of such testimony and return a verdict upon the evidence of unsubsidized and unprofessional witnesses. We are unwilling to follow Recorder Goff to the extreme of declaring that the majority of these medical experts are 'charlatans and mountebanks,' but it cannot be denied that those who appeared in certain trials in the local courts within the last twelve months brought disgrace and reproach upon our institutions of law and medicine, and helped to retard the processes of justice rather than aid them.

"The Recorder strikes at the root of the whole evil in the present system when he says that the expert is 'willing to testify, in the majority of cases, on the side which offers the most money." There is the danger spot in the whole practice. The value of expert testimony in criminal cases is almost invariably impaired by the fact that it is made to order. No lawyer has any use for an expert whose testimony won't fit the side of the case for which it is engaged. The mercenary element runs through the whole proceeding. The expert who cannot, or will not, adapt his conclusions to the contention of the lawyer who employs him, must step aside to make room for one who will. It is not strange, therefore, that this whole system of adducing expert testimony should have fallen into disrepute, and that it should have become a costly and dangerous obstruction to the course of justice. The Recorder's plan for reforming this scandalous abuse is not definite, but it leans in the right direction. He says:

"'If it were possible to secure a competent board to name medical experts whose testimony could be regarded as reliable, it would be a great service to the criminal courts.'"

It is apparent that Recorder Goff favors such a board of official experts, to consider scientific or technical questions, and the TIMES has advocated just this plan. We have even gone further and suggested that a competent expert should sit with the judge in such cases, to aid in the elucidation of points which he could not possibly understand; then the paid expert would be shorn of much of his "dangerous obstruction to the course of justice."

Recorder Goff's mighty presentation of the subject to the Medico-Legal Society should bear fruit in the way of reform and it may, provided some simple, practical law is enacted by the Legislature to this end.

MODERN MANAGEMENT OF PNEUMONIA.

THE opinion is gradually gaining acceptance among advanced physicians, that pneumonia, like typhoid fever, should be regarded as an infectious disease, whose chief attack is made upon the nerve centers, the local lesion being a secondary manifestation. From this view a mode of treatment has been evolved, which consists essentially in "enhancing the resisting capacity of the patient by all useful remedial agencies." Among these the most important is hydrotherapy, of which Dr. Simon Baruch has long been recognized as the leading advocate in this country. The employment of water in pneumonia was highly recommended by eminent authorities many years ago, but to Dr. Baruch belongs the merit of being the first to give definite directions for its application, thereby enabling us to obtain definite results. This, indeed, is the only novelty he claims to have introduced. His principal reliance is on the wet compress, shaped and applied like the well known oiled silk jacket.

For the average case a temperature of 60° Fahr. is directed. When there is stupor or muttering delirium, and in cases of bronchial obstruction, the temperature should be lowered. A higher temperature than 60° Fahr. may be used if there is much restlessness, insomnia, or excitability. The effect of hydrotherapy in this disease, aided by fluid diet and abundance of water internally, has been briefly summed up by saying that it quiets the mental excitement, improves the

quality of the pulse, increases the depth of the respirations, and promotes sleep. The full bath has been found of great value in the pneumonia of children.

Very few drugs are of service in this connection. An opening dose of calomel (10–20 grains) is strongly advised by Dr. Baruch, on the ground of its anti-bacterial and antiseptic operation. The routine employment of coal tar antipyretics is disapproved of, as positively harmful in these cases. Phenacetin, however, has been used with benefit, when high temperature was associated with sleeplessness, delirium, and great jactitation. In every case, an abundant supply of fresh air should be secured, if necessary by keeping the patient near an open window. Efforts to abort the disease, by means of warm pediluvia, hot drinks, aconite, etc., have repeatedly proved successful, when made during the initial chill. Digitalis, in daily doses of 60 to 120 grains—as first recommended by Petresco, of Bucharest—has been tried in the treatment of pneumonia at Mt. Sinai Hospital, with the result that only two out of twelve patients died. Dr. Baruch thinks its use should be restricted to the early stage.

ACTION OF THE NEW YORK CITY BOARD OF HEALTH IN REFERENCE TO TUBERCULOUS DISEASE.

DR. HERMANN M. BIGGS, pathologist and director of the Board's bacteriological laboratories, and Dr. T. Mitchell Prudden, the Board's consulting pathologist, have addressed a long communication to President Wilson, of the Board of Health, urging the necessity of taking some radical steps to rapidly and materially diminish the prevalence of pulmonary tuberculosis in this State.

The steps recommended, and which have been approved by the Board of Health, are:

First: That such action be taken by the Health Board as seems necessary and proper to at once secure the providing of hospital accommodations under its charge, for the care of the poor suffering from pulmonary tuberculosis, who, as active sources of danger to the community, may properly come under its supervision.

Second: That an amendment be made to the Sanitary Code, declaring that tuberculosis be officially considered a communicable disease, and formulating regulations under which its sanitary surveillance shall be exercised.

Third: That all the institutions of the city which admit and treat cases of pulmonary tuberculosis be subjected to regular and systematic inspection by officials of this Board, and that specific regulations be established for the conduct of such institutions, in accordance with the proposed amendment to the Sanitary Code.

Fourth: That the scope of the measures designed for the education of the people in regard to the nature of pulmonary tuberculosis and the methods to be taken for its prevention be enlarged, and a closer sanitary supervision be maintained over individuals suffering from this disease in the closely populated tenement districts and in the crowded workshops and public buildings of the city.

There is no doubt that any power entrusted to our present Board of Health would be used with proper judgement and with wise forethought, but in the legislation necessary to change the Sanitary Act in conformity with the recommendations of Drs. Briggs and Prudden, it should be borne in mind that our Board of Health, influenced as it must be to a certain extent by political combinations, may not always be of the high standing of the one now in power, and that an act which touches the comfort of so many, should be guarded with the utmost care against the possibility of hasty or unwise action. The subject is a most important one, and calls for the wisest legislation.

COCAINE DEBAUCHERY.

FEW people even in the profession of medicine know much about the cocaine habit, and to what extent it prevails in the lower walks of life in the large cities, writes Dr. E. R. Waterhouse in the *Eclectic Medical Journal*. The recent exposure of a "cocaine joint" disguised as a drug store in the business part of this city (St. Louis) has made public that which had been known only to a few. The patronage was largely from the lower class of fallen women, men seldom using this narcotic.

This store had very well stocked shelves, but seldom was anything sold except cocaine; this was put up in packages which sold at a dime. The cocaine fiend was admitted into a dark back room, and taking a seat, snuffed the powdered drug into the nose. A sort of dreamy intoxication followed. When they regained consciousness, should they desire more of the drug, they touched the bell, and in came the clerk with another dose, or if satisfied, they stole quietly out the back door into the alley.

The effect of using the drug so strong is to paralyze the vaso-motor nerves of the nose, and as a result the blood vessels dilate and the worst form of "rum nose" is seen. One poor unfortunate has a nose nearly as large as a man's fist, as red as erysipelas, and as sore as a boil, with large

nasty ulcers extending down the upper lip. The grip that the drug gets upon the poor victim is far greater than from opium or morphine, and the downward road is traveled faster.

The crowd which filled this man's coffers began coming as early as 9 o'clock in the evening, and at 2 or 3 o'clock in the night his room was full. Some would recover in a few hours and go their way, while others would lie in a stupor for half the following day. A few days ago the proprietor of this den was placed under arrest, under the law regulating the sale of poisons, but has his place still at full blast.

Hundreds of people buy this drug and snuff it at home, and some law should be passed to meet this new state of affairs. I have treated two cases of this habit, and find it very difficult to handle. The poor victim, when once under its charms, will hypothecate anything he may own or be able to steal to get cocaine, and in this way unscrupulous druggists reap an increasing benefit.

THE LUNACY LAW.

THE Legislature of this State last year enacted a law respecing the commitment of the insane, which has excited a great amount of controversy with all classes of citizens.

Medical men have not been at all satisfied with its requirements from the beginning, and some of our leading specialists in this department have been the loudest in their condemnation. The law will undoubtedly work out its own repeal. The Neurological Society has appointed a committee with a view to revising the law, and the Society of Medical Jurisprudence recently discussed it with much animation.

It is complained that the blanks to be filled out are too numerous and too complicated, thus wasting valuable time with possible detriment to the patient.

The provision requiring a notice to be served upon the patient announcing the intention to examine as to sanity, was even brutal, if not dangerous to life in some cases. Under the present law there is no way in which the physician could protect all concerned in case of sudden and violent seizure. The only thing left then is to lock the patient in a cell, until the legal machinery can be complied with. In discussing the subject the lawyers seem to lose sight of the fact that insanity is a disease, which should of course be left to medical men to deal with, but rather that it is a condition which requires consideration from a single and that a legal standpoint. If a jury is to sit upon such cases, it should be composed of medical men, as only such can be expected to take an intelligent view of the subject.

It is absolutely useless to ask a jury of laymen to consider a complicated and doubtful case of insanity ; they are not fitted either by education or experience to reach a just conclusion.

Mental unbalance is often so insiduous, and sometimes erratic, that it requires the most experienced expert a long time to determine in some cases what the layman proposes to decide in a moment.

What we want is a simple, practical, easy working law that will protect all concerned from danger, society at large, as well as the suspected individual.

THEOSINAMINE.

DR. SINCLAIR TOUCEY, in a recent article in the *New York Medical Journal*, narrates his experience with this drug, which was first brought to the attention of the profession by Hebra and Van Hoorn. The drug is made by mixing two parts of oil of black mustard seed, one part of absolute alcohol and seven parts of aqua ammonia of the specific gravity of 0 960, warming to 105° Fahr., and after a few hours evaporating over a water bath. Theosinamine is deposited as the mixture cools. The drug is used hypodermically in a 15 per cent. alcoholic solution. In summing up the results of his experiments, Dr. Toucey believes the drug acts specifically upon certain abnormal tissues, causing their absorption. It it of great value in the removal of cicatricial contractions following lupus or any other cause of loss of substance. The frightful contractions of burns of the neck yield to its action as do also cases of ectropion and corneal opacity. Dr. Toucey has used it with marked success in cases of keloid and also in malignant tumors.

LA VEGAS HOT SPRINGS, NEW MEXICO.

THE Medical Director of this new health resort advises that no patients advanced in the third stage of tuberculosis be sent. Such cases are better treated at home. In the early stages of consumption, in rheumatism and general nervous prostration, the high altitude of the springs, 6,747 feet above the level of the sea, the hot saline and sulphur springs, the facilities for out door and in door exercise and amusement, under the advice of the Medical Director, Dr. William Curtis Barclay, renders the place a most desirable one for invalids, or for those seeking the recuperation of rest.

CORRECTION.

ON page 17 of our January number the printer in making up the page form dropped the title "Racial Anatomical Peculiarities," thus making the article appear as a part of the preceding one on "Are Nervous Diseases Increasing?"

THE building occupied by Bellevue Hospital Medical College was partially destroyed by fire recently.

We trust that the city authorities will not rebuild, and thus compel the college to seek other quarters.

The hospital needs all the land it has in this locality for its own purposes, and now is the opportunity to get possession of it.

There has been much criticism of our city officials for allowing a private corporation to occupy these premises, and the opponents to such occupancy should make themselves heard at once, in order to put a stop to its further perpetuation.

THE attempt of the Board of Health to isolate cases of pulmonary phthisis and to make rules respecting the treatment of such cases is not meeting with sympathy from medical men in general, and there is a strong counter movement to prevent the carrying out of the methods as proposed. No doubt the result will be that some common ground will be reached upon which all can agree.

AN invitation was recently extended by Dr. Sherman, of 26 East Sixty-third street, to a few physicians to see at her house a case of what she called psuedo-hermaphrodation. The subject in voice and action seemed a woman, but had a well developed penis and testes. The rectal orifice outside the external sphincter had the appearance of a vulva. Through an orifice, up which a probe could be passed about two inches, there was a flow of blood. This discharge had occurred every month since the age of fifteen. Urine is passed through both channels, and menstrual blood also escapes through the urethra. No distinct uterus or ovaries could be found.

WE are very glad to hear that the new Homœopathic Hospital at Collins, Erie County, has selected as its first superintendent Dr. George Allen, for many years Assistant Superintendent of the State Insane Hospital at Middletown. Dr. Allen's record as a medical officer has shown such skill as a physician and such marked ability as an executive officer, that there will be no doubt of his success in the higher position to which he has been called. The Trustees of the new hospital have made no mistake in the selection of the medical head of their institution.

NEW discoveries are being constantly made in connection with the Röntgen ray. In a report to the Vienna Academy of Science Prof. Friedrich speaks of a black ray which issues from the vacuum tube and passes through the human body. The photographs produced by means of these rays, which the Professor calls the "cortical rays," are not the same when taken of a living body as of a dead one. Photographs of the living hand show the skeleton as in the Röntgen photographs. A dead hand appears in full, showing all the fleshy integuments, while the bones remain invisible. It is thought that through these rays the actual presence of death can be discovered without danger of error. When the Röntgen ray has been used upon the head for any great length of time it has been followed by the destruction of the hair at that point. Dr. Friuend, of Vienna, has utilized this fact in destroying a growth of hair along the spine in a marked case of hypartrichosis.

IT is a noticeable fact that the death rate in this city during the past year was less than any preceding year, it being 21.10 the past year as against 23.10 in 1895, and an average of 26.03 for the five years immediately preceding. One cause for this excellent showing is a very marked decrease of infectious diseases, the mortality having declined from 30.46 in 1893 to 13.83 in 1896. The tenement houses are in better condition, as is shown by the reduction of mortality of 7 per cent. during the past year and 17 per cent. less than the average of the past five years. The clean streets, our efficient Health Department, more scientifically constructed buildings, and an improved treatment of disease, are among some of the factors which are rapidly making the metropolis one of the healthiest cities in the world.

THE New York Academy of Medicine held its semi-centennial celebration on the 29th of January. The ceremony at Carnegie Hall was presided over by ex-President Joseph D. Bryant, an address was delivered by President Cleveland, an oration by Dr. Jacobi and short addresses by founders of the Academy. Dr. William M. Polk was Chairman of the Committee of Arrangements.

The exercises were followed by a reception at the Academy Building.

BIBLIOGRAPHICAL.

THE *Electro Therapeutist* is the title of a new journal which comes to us with the commencement of the new year from Indianapolis, edited by William F. Howe, M. D., Ph. D. The journal is ably edited, and promises well for the future.

THEY SAY. By Ch. Gatchell. (Thorold King) author of "Haschisch." With marginal illustrations. Chicago; Era Publishing Co., 1897; 136 pp.; 12mo.

This little book is a collection from the columns of the *Medical Era*, of which the author is editor, and the subject is well known to the readers of that journal. The book sparkles with wit, humor and wisdom.

LEPROSY AND THE CHARITY OF THE CHURCH. By Rev. L. W. Mulhane. Chicago and New York. D. H. McBride & Co.; pp. 155; 12mo.

This little book is a compilation of facts, which the author says he has picked up here and there, and is issued in this form in answer to an urgent demand.

The text covers an interesting history of this terrible disease, and will be found useful to laymen who desire to be informed upon such a subject.

THE SURGERY OF THE CHEST. By Stephen Paget, M. A., Oxon., F. R. C. S., Surgeon to the West London Hospital, and to the Metropolitan Hospital. Illustrated. New York: E. B. Treat; pp. 480; large 12mo. Price, $2.75.

This is the first attempt, we believe, to present the whole subject of the surgery of the chest, both in injury and in disease, in a separate volume.

The text shows plenty of material for such a work; it has been ingeniously and practically worked out, and it cannot fail to be useful. It is scholarly, easy to read, and interesting, and cannot fail to meet a favorable reception from the profession. It will be found of service to the general practitioner as well as to the surgeon. The illustrations are clearly drawn, and the physical part of the work is excellent.

THE medical publishing house of W. B. Saunders, Philadelphia, has given to the profession during the past year a list of exceedingly valuable text-books, in the various departments of medical science. Among the announcements for the coming year we notice one which will be of special interest not only to the medical profession but to the general reading public, and which will undoubtedly meet with a large sale. The work is edited by George Gould, A.M., M.D., and Walter L. Pyle, A. M., M D., and is entitled "Anomalies and Curiosities of Literature," being an cyclopædic collection of rare and extraordinary cases, and of the most striking instances of abnormality in all branches of medicine and surgery, derived from an exhaustive research of medical literature from its origin to the present day, forming an imperial volume of 968 pages, with 295 illustrations in the text and twelve half tone and colored plates.

THE "International Medical Annual," the yearly issue of which for several years past has found a place in almost every medical library, will be of especial value in 1897. The work has become so popular that Mr. E. B. Treat, the publisher, can afford to bring within the ample pages of his "Annual" the labors of more than fifty physicians and surgeons in condensing from the rich fields of scientific literature the leading thoughts and discoveries of which the past year has been so fruitful. The value of the book will be greatly enhanced by the thoroughness of illustration, including both colored plates and photographic illustrations in black and white. For those who have any of the previous volumes, the simple announcement of the forthcoming volume will be all sufficient.

AUTOSCOPY OF THE LARYNX AND THE TRACHEA. (Direct examination without mirror.) By Alfred Kirstein, M.D., Berlin. Authorized translation (altered, enlarged, and revised by the author) by Max Thorner, A.M., M.D., Cincinnati, O., Professor of Clinical Laryngology and Otology, Cincinnati College of Medicine and Surgery; Laryngologist and Aurist, Cincinnati Hospital, etc. With twelve illustrations. One volume, crown octavo, pages xi-68. Extra cloth, 75 cents, net. The F. A. Davis Co., publishers, 1914 and 1916 Cherry street, Philadelphia; 117 W. Forty-second street, New York; 9 Lakeside Building, Chicago.

This most interesting and practical little volume must prove of interest to every physician who has occasion to examine a throat, as it teaches that direct inspection can be made of the larynx and trachea by making pressure on the tongue. The writer has many times demonstrated this fact to his own satisfaction before he ever heard of this method, but he is glad to see that new instruments have been devised which make the procedure practicable under many circumstances.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In Photo-Lithochromes from Models in the Museum of the St. Louis Hospital, Paris, with explanatory wood cuts and text. To be published in twelve parts. Edited and annotated by J. J. Pringle, M. B., F. R C. P., Assistant Physician to, and Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Philadelphia: W. B. Saunders, 1896

Part V.: This is a continuation of a work which has already been noticed in our columns. The present fascicle contains the following plates: (1) Agminate Trichophytic Folliculitis. (2) Lupus Pernio. (3) Papulo-Tuberculous Syphilides. (4) Dermatitis Vacciniformis Infantiles, Acute Ecthyma of Infancy.

Part VI: Plate XXI. Lesions in a Habitual Cocaine and Morphine Consumer.

Plate XXII. Ringworm of the Body.

Plate XXIII. Syphilitic Hyperkeratosis.

Plate XXIV. Psoriasis Figurata.

A superb work in every respect.

DISEASES OF INFANCY AND CHILDHOOD. For the Use of Students and Practitioners of Medicine. By L. Emmett Holt, A. M., M. D. With 204 illustrations, including seven colored plates. New York: D. Appleton & Co., 1897.

The pathology and symptomatology of diseases of children who have passed their seventh or eighth year differ but little from those of adolescents and young adults. It is in infancy and early childhood only that the peculiar conditions exist which separate pediatrics from general medicine, and entitle it to be ranked as a special department. It is, therefore, to the period between birth and the seventh or eighth year that the attention of the author has been specially directed as forming the department of pediatrics. Of course, particular attention has been given to nutrition, as a large majority of diseases of infants and children come from some form of malnutrition and irritation of the digestive and nervous system, produced by irritation and chemical change. In the department of treatment we are glad to see so much importance given to diet and hygienic measures, attention to these matters alone being often sufficient, without the aid of drugs. The work is to a great extent the outcome of the author's personal experience in hospital and private practice, in which his close study and intimate knowledge of the recent developments of chemical and hygienic science are clearly seen.

CORRESPONDENCE.

TALKS WITH YOUNG MEN CONTINUED.

To the Editors of THE MEDICAL TIMES:

During the past four months I have received a number of letters commending and criticising my "Talks with Young Men." The quiz, begun by my hearers, has been resumed by my readers, some of whom request a continuation of these "Talks." While all this is very flattering, still there is an alloy in the pleasure, *viz.*, most of the criticism seems to have been written by those who have not very carefully considered what I have already offered, especially my quotations from men who are recognized as authorities throughout the civilized world.

Substituting *reader* for "hearer," for brevity's sake, I will try to proceed, as before, in answering some of the questions propounded. Those who have raised points already fully considered are requested—at their leisure—to re-read Parts I., II. and III., in the July, August and November issues of the TIMES.

Reader: Doctor, you liken a human being to horses and cows. Is it not true that a stallion, constantly covering mares, is apt to be in fine condition, while the tantalized and inferior horse used as a "teaser," to see if the mare is ready, soon goes all to pieces, while the satisfied one grows slick and full of vim?

Doctor: There is a great difference in the endurance of different animals in this as in other respects, but every practical horseman knows that stallions often exhaust and injure themselves and beget inferior colts by being allowed too many mares. The "teaser" "goes all to pieces" because he *is* an "inferior" horse, and because he is treated in an unphysiological way by man. I have been told by a successful stockman that he no longer uses a teaser, as he became convinced it was an unnatural proceeding, and that the mare often seemed to impart the characteristics of the teaser to her foal rather than those of the selected sire. This shows that the lower animals resemble man even as regards being susceptible to psychological impressions, and that these idiosyncracies were not confined alone to Jacob's cattle. Moreover, the teaser himself often learns that he is being defrauded, and becomes indifferent towards the mare. A stockman also stated, that in driving large herds of cattle from the Rocky Mountains to Kansas, the bulls were the first to become exhausted and die on the way, as they wasted their strength in "covering" the cows, and in "riding" the other cattle.

Reader: Doctor, it seems to me that by your plan the husband is left out in the cold for months at a time.

Doctor: Yes, I would do so no less for his sake than for that of his wife and prospective progeny. The sexual organs of man, like those of the lower animals and of plants, need periods of physiological rest.

Reader: Doctor, while inclined to believe that your views are right, and if generally adopted, would remove mountains of suffering and crime, still, they are so different from those commonly taught, that I am not quite sure they harmonize with the facts of physiology and pathology.

Doctor: My chief purpose has been to bring forward only such opinions as seem most fully to accord with both physiology and pathology, and with the great lessons of practical experience.

It has been suggested that if in these "Talks" "the doctor had confined himself to the physical, and not drawn sweeping conclusions as to the nature of the soul, from the manipulation of its merely animal powers, he would have done well." While thanking all my critics very seriously, I wish to say, regarding the last criticism, that I believe with Emerson that "all things are moral," that "the soul which within us is sentiment, outside of us is law." "The soul strives amain to live and work through all things. *It would be the only fact.* All things shall be added unto it—power, pleasure, knowledge, beauty."

In the class of patients now being discussed, the amount of real good we can do seems just in proportion to the degree of manliness which may be aroused. To what, then, except the soul,* can we appeal? Water cannot be carried in a sieve nor sexual diseases permanently cured without a moral foundation. In this age of increasing specialism, we are fast drifting away from the time when the functions of priest and physician were blended. But a better understanding and more co-operation between the clergy and our profession seem to be greatly needed.

WALTER F. MORGAN, M.D.

Leavenworth, Kan., January 13, 1897.

THE CAUSE OF THE FAILURE OF DRUG THERAPEUTICS.

To the Editors of THE MEDICAL TIMES:

An able and outspoken address, entitled "The Causes of the Failure of Drug Therapeutics," was recently delivered before the Clinical Society by Dr. Reynold W. Wilcox. The speaker began by denying any intention to bring discredit upon scientific medication. His object was to indicate what he believed to be the causes of "the general disbelief in the efficiency of drugs, which has become quite common in the medical profession," and to show how far these causes may be removed.

The primary cause of this therapeutic scepticism, he thought, lay in the teaching of the undergraduate schools, which are exceedingly superficial, and not of a character to render the subject of materia medica attractive to the average student. In his long experience as an examiner he "had never yet found a man that could pass a therapeutic examination that was at all comparable in point of quality with that which he passed on the subject of medicine." The result of this state of things was that a surprisingly large percentage of prescriptions given out by the best educated physicians of this city "are such as ought not to have been written." Other sources of failure were drug adulterations and "the various trade formulas, leading to routine prescribing." As examples of the latter were mentioned the numerous hypophosphite preparations, none of which contained more than a very small fraction of the dose of hypophosphorous acid directed in the pharmacopœia. "Any one using these preparations and basing his results on them ought to become skeptical as to the results of the administration of the hypophosphites." "The number of therapeutists in this country," continued Dr. Wilcox, "can almost be counted on the fingers. * * * The difficulty is that it is so easy to be led astray, to get into careless habits, to prescribe for symptoms that present themselves, instead of getting at the pathological basis of the condition, and then treating the patient as well as the disease. * * * To avoid failure you should regulate your forces—your doses—in accordance with that which you wish to accomplish"—no matter what the text books say. In this way, and by studying our cases, being careful to avoid falling into routine prescribing or using mixtures that are a disgrace to chemistry and scientific medicine, and contributing as far as we can to the advancement of therapeutic education, we should have the subject developed in a much shorter time than seems likely now, and put in its proper place, and we would find medicine where it ought to be, far in advance of the so-called specialties.

This is most excellent advice, which all the brethren, of whatever name, would do well to heed. But something, I think, might to advantage have been added, which was not even hinted at by the speaker or those who discussed his ideas. A great many, both "regulars" and "irregulars," nowadays believe that "empiricism" is not the only way to judge of the value of a medicinal agent, but that we may oftentimes be guided by a certain rule or principle of drug administration, founded upon *the opposite effects which are produced by the same remedy, according as it is given in large or in small doses.* Now, why should not instruction in this well-established doctrine—no matter

* The word "soul" is here used as a synonym of mind and spirit.

how denominated—and in its practical application, form a part of the curriculum of every medical school? Would not the subject of materia medica be thereby made decidedly more attractive to the student, and his therapeutic horizon, so to speak, be correspondingly enlarged? And, supposing him to be so inclined, why not allow him to take up this method of treatment (now so absurdly engrossed by an exclusive body) as a *specialty*—of course, without assuming a distinctive name? This would certainly be a long step toward the wiping out of sectarian boundary lines. In advocating it we are merely following the lead of an esteemed contemporary, whose professional orthodoxy is unimpeached and unimpeachable. "Why?" asks the editor of the *Pacific Medical Journal*, "why not establish a post-graduate course where any graduate in medicine could acquire the few dogmas peculiar to Homœopathy? * * * Or why not advocate the establishment of a Homœopathic chair in the regular medical colleges? * * * The course might be made obligatory."

And the opening years of the twentieth century will see it done! RUSTICUS.

SOCIETY REPORTS.

DISCUSSION OF TYPHOID BATHING AT THE COUNTY MEDICAL SOCIETY.

Dr. J. P. Thornley read a paper on the subject of bathing in typhoid fever, based upon 250 cases at the Presbyterian Hospital. Of this number 200 received the bathing treatment in some form, forty-eight of them the tub bath alone, twenty-six of them sponging alone. In describing the tub bath, friction by the hand of the nurse was mentioned as an important factor. The bath tub was narrow. It was rolled to the bedside, and the patient was lowered into it by three persons. The extremes of the water temperature were 90° and 60° Fahr. The patient was kept in the bath fifteen minutes, but in some instances a shorter period with a lower temperature was better than the full period with a higher temperature. The cases were analyzed with reference to the period of admission, stay, method of treatment, relapses, mortality, etc. Thirty eight were admitted the first week of the disease—mortality, 7.8 per cent; duration five weeks; 112 were admitted the second week—mortality, 7.4 per cent.; stay nearly six weeks; thirty-eight were admitted the third week—mortality, 18.9 per cent.; stay seven weeks. Of the forty-eight who received the full bath alone, three died. Of twenty-six who were simply sponged, four died. When both tubbing and sponging were used, because of some special feature in the case, the mortality was about 13 per cent. The mortality for the whole number, irrespective of the method of bathing, was about 8 per cent. Up to the fourth week the percentage of complications was greater the later the cases were admitted.

Dr. W. P. Northrup said most of the cases mentioned in the paper had entered the hospital during the months of his service. He believed the tub treatment of typhoid was the best for routine treatment. In the severe cases it was the one thing which had done much to carry the patients comfortably through. He did not mean to say, however, that the tubbing was actually going to save the lives in a large percentage of severe cases. But it was urgently demanded, because it helped such patients to traverse pretty comfortably the weeks of continuous fever and made the prognosis better. He had seen mild cases get along well under sponging.

Dr. W. H. Thomson had seen sixty-one cases of typhoid fever in his service at Roosevelt Hospital in the fall of 1895 and 1896. Five of these subjects had died. One of these had lobar pneumonia when admitted; one died apparently of syncope after the typhoid ulcers had healed; three were admitted the third week, were delirious, and remained delirious until death. But in judging of the value of any treatment, the question of greatest importance was, What was the condition of the patient during the course of the sickness? Of the sixty-one subjects, only eleven were delirious, and five of these were delirious on admission. Number of cases of tympanites, nine; relapses, four, hemorrhage, four; no subsultus tendinum, no dryness of the tongue, no sordes. This absence of the classical symptoms of typhoid, as it was seen formerly was attributed to the tub treatment and intestinal antiseptics. The patient was put into the tub as often as the temperature arose to 103° Fahr. Every patient was given, every third night to the middle of the third week, 5 to 10 grains of calomel with 35 grains of compound jalap powder; also, for every twenty-four hours, 10 grains each of saccharated pepsin and sub-nitrate of bismuth. The diet consisted exclusively of equal parts of milk and lime water. He had no doubt that, with the intestinal antiseptics and the cold bath, the entire picture of typhoid had been changed.

Dr. Simon Baruch, in discussing the subject, said: It is gratifying to me personally to discover this increasing interest in a method of treatment which I have urged for many years, two papers having been read here upon the Bull treatment of typhoid fever during the past two months. Any kind of cold bathing is useful in typhoid. But we should strive to attain the ideal in following closely Brand's rule to bathe the patient with active friction in water at 65° Fahr. every three hours night and day, when not asleep so long as the temperature reaches 102 5° Fahr. Any deviation from this method will be followed by diminution of success, just as any deviation from the rules of strict asepsis is followed by diminished success. An anecdote is told of Lawson Tait, who, being told by one eminent surgeon that he could not attain the same results, although he practiced strict antisepsis, replied that the fault probably lay in imperfect cleaning of the finger nails, which at that time showed mourning crescents.

Physicians are too apt to be easily frighted by shivering, cyanosis and weak pulse, and claiming that the case is not adapted to cold bathing, abandon this life saving practice too readily. No matter how the patient shivers and complains of being cold, never remove him from the bath unless the teeth chatter, nor until the lips are cyanotic. The finger nails often look blue when the patient grasps the edge of the tub, as he generally does. The peripheral arterioles being contracted, pressure of the fingers against the tub causes venoris stasis, which need not frighten the practitioner. Again, the radial pulse becomes thin and small, and forthwith the patient is removed. This is an error. Being superficial the artery becomes contracted and small; but careful examination will find it less compressible and ten to twenty beats slower, which is an evidence of enhanced cardiac power. The statistics mentioned by Thornley may be amplified. Of the 1,200 cases reported by Brand, Vogl and Jurgesson, with five deaths, I am informed by Brand himself that these five cases were not bathed before the fifth day. Therefore his claim that every case bathed *properly* before the fifth should recover, is not unreasonable. My own observation confirms it in private practice. In hospital we do not receive the case early enough. But even here we find, as Dr. Thompson said, the status typhoidim absent when the patient is bathed. The physician must have the courage of his convictions if he would succeed with the Brand method. I have been dismissed only from one case because I insisted upon it, and in this case I had advised removal from a boarding house to the hospital. My usual practice is to bathe at once every case presenting a suspicious temperature that I cannot account for by local signs. I begin with a bath of 90° Fahr.; in three hours a bath of 85°, then 80°, 75° and 65°, and continue the latter every three hours. If the temperature is reduced one or two degrees in the first week it is not typhoid fever. Therefore the bath is diagnostic.

Dr. Charles E. Quimby said: I would like to refer briefly to a single case which seems to illustrate the extreme importance of one point in the bath treatment which has not been made prominent in the discussion. It is the use of cutaneous irritation by some form of friction, both before and during the bath, for the purpose of maintaining free capillary circulation in the skin, and so avoiding sudden internal congestions either at the moment of im-

mersion or during the bath, as well as obtaining the fullest effects of the cold upon the temperature and nerve centers.

The case referred to had been in charge of a physician who tried to obtain the reduction of temperature by mild measures. The patient had been stripped naked and placed under a sort of open tent made by a sheet. The windows at both sides of the house and the intervening doors were then opened and the air allowed to blow freely over the patient's body. It was in the early summer and the temperature ranged about 70° Fahr. Under such antipyretic treatment the patient's temperature was constant at 105° Fahr. and above, without the usual morning remissions, for between four and five days of the last of the first and early part of the second week. As soon as I saw the patient the tent was removed, his underclothes put on, and he was covered with a thin blanket. The subsequent fall of temperature to 103° and under, was so immediate and persistent as to leave no doubt as to its being due to the changed conditions. In this case, then, the radiation of heat was greater into warm air and through a blanket from the skin with good capillary circulation than it was into much cooler air at a temperature which caused contraction of surface vessels. I offer it as a vivid reminder of the importance of maintaining full cutaneous circulation while administering the Brand bath.

Dr. Quimby also said that in connection with this subject he avails himself of the privilege of referring to the efforts made by Baruch in introducing the Brand method in this country. Time was when the most prominent men in this city opposed in this hall this bath treatment, and this is not so long ago; indeed, it is since these walls were erected. To-night no one dares to stand up here and say a word against it. Realizing the tardiness with which medical men mete out justice to their colleagues, I think that this Academy should pass a resolution acknowledging Dr. Baruch's work in this connection.

FRENCH MEDICAL SOCIETIES.

FRENCH SURGICAL CONGRESS.

Uterine Prolapsus.—M. Pean: I shall not dwell upon the mechanism of uterine prolapsus, but simply say that there are two conditions of prolapsus; one simple, in which the uterus alone is depressed; the other in which there are complications. In the latter it is almost impossible that the prolapsus shall not be accompanied by cystocele and rectocele. In the simple form pessaries are useful, especially the light aluminum. When there is total rupture of the perineum, the surgeon must interfere. If atony of the tisues is considerable, perineoraphy alone is not sufficient; it must be completed by colperineoraphy, with the removal of a rectangular segment reaching to the posterior cul-de-sac of the vagina, the threads of which are passed transversely and separately through the perineal substance. In cases in which there is cervical hypertrophy, make a supra-vaginal resection of the uterine neck in V form, and cicatricial retractions are avoided by suturing the intra uterine membrane to the vagina. Finally, when there are, as often happens, inflammatory complications, or lesions grave or simply serious, hysterectomy is indicated.

M. Richelot, of Paris, cited the arthritic temperament as a predisposing cause of prolapsus. In the mechanism of prolapsus, it is the vagina that descends, and not the uterus, and in order to oppose it, it is indispensable to reconstruct the perineum. Vaginal hysterectomy alone does not yield good results; the only operation indicated is colporrhaphy, with very large and free resection of the whole thickness of the parietes. This is the fundamental process; the secondary is supra-vaginal amputation of the cervix, which, combined with colporrhaphy, results favorably. When total hysterectomy is absolutely necessary, because of uterine or annexal complications, immediate colporrhaphy should be practiced. Hysterectomy is always indicated in cases of fibromatous or cancerous uterus, or when there are annexal lesions. In the immense majority of cases, and without these complications, supravaginal amputation of the neck will suffice.

M. Schwartz, of Paris: The great majority of cases of prolapsus are not complicated, and even in their advanced forms justify anaplastic operations upon the perineum and vagina. If there should be hypertrophic cervical metritis or endometritis, with or without ectropion, which is very frequent, there are two indications, one for curettage, then for the biconical amputation of Simon, or the operation of Schroeder. Hugnier's conoidal method. In cases of complicated prolapsus, anaplastic operations upon the perineum and vagina are not sufficient; when the prolapsus seems to be in immediate relation with the presence of a tumor, vaginal hysterectomy should be resorted to. When it is acccompanied by a retro-deviation, and there is nothing but these two leisons to indicate uterine castration, and when the uterus is small and its annexæ intact, then abdominal hysteropexia in advanced cases, with Alexander's operation in those that are less serious, combined with perineal and vaginal readjustment, unite the best conditions of success. Vaginal hysterectomy—total—may be employed when women have attained the menopause, but this does not seem to be a necessity for the preliminary operation of extensive colpoperineoraphy or elythorraphy to prevent subsequent prolapsus of the vagina. Finally, there are cases, especially in women of relaxed tissues, whose vitality is feeble, in whom all efforts of intervention are inadequate to effect complete sustention af the prolapsus. Relapse is certain, and special pessaries, or supporting bandages, seem to be the only resources available.

M. Reynier, of Paris, defended the opinion that in aged females prolapsus, like all the other ptoses of old age, depends upon a senility of the nervous system, and hence the loss of muscular tonicity or atrophy of the levator muscle, the vagino-abdominal spincter, which holds the abdomen and sustains the uterus. When this is defective, as shown by M. Tielat, the uterus is depressed. In young women there is no senility of the nervous system, but a special debility occasioned by pregnancy. Nothing shows more distinctly this influence of the nervous system than the study of uterine prolapsus in virgins. This is as yet but little known, though signalized by Rames McLintock. Among its causes Barnes gavè epilepsy, fear and the effort of coughing. McLintock says he has seen it result in virgins from defecation, and provoked by organic retraction of the rectum, which retraction shows that these women were in a miserable condition, which, according to M. Reynier, was due to the debility of their nervous system. Of three personal cases, one was a typhic coma, with prolapsus through an intact hymen. The prolapsus was reduced, but the coma persisted. The patient succumbed, and autopsy revealed the characteristic lesions of dothinenteritis. In another case of typhoid fever with coma, recovery occurred, with prolapsus through an unbroken hymen. In the third it resulted from fatigue, caused by carrying a heavy burden. In these three cases the primitive nervous cause was undeniable, in the two first from infection, in the third from exhaustion of nerve force.

M. Boeckel, of Strasburg, proposes the following rules: 1. Before the menopause, vaginal hysterectomy should not be practiced in genital prolapsus except (*a*) when plastic operations have failed. (*b*) When the age and volume of the prolapsus shall make the failure of plastic methods certain. (*c*) When reduction cannot be maintained because of uterine hypertrophy. (*d*) When the prolapsus is strangulated and cannot be reduced 2. Vaginal hysterectomy should always be immediately followed by colpoperineoraphy; this last should be made extensively, as it is the only certain condition of success. 3. These combined operations give excellent results, and very far superior to simple autoplasty. 4. The mortality is slight, eight cures in eight cases. 5. After the menopause, vaginal hysterectomy, all things being equal, presents no counterindications; the advanced age of the patient should not prevent its performance, even to the limit of eighty years.

M. Bourrier, of Bordeaux, insists upon the importance of a special dystrophy of the tissues, particularly the mus-

cular, not only upon its effect in the pathogenesis of prolapsus, but as respects its prognosis and its curability. Whatever may be the degree of the prolapsus, the chances of its recurrence are proportioned to the intensity of the dystrophy, even after practicing all operative methods. M. B. divides his cases into three groups: First, patients with intra-vaginal prolapsus, with incomplete vaginal protrusion, cystocele and rectocele. Treatment: Curettage and amputation of the neck; colpoperineorrhaphy. In nine cases of operations, one died from pulmonary embolism; the others recovered at once, with relapse in only one. Second group: Prolapsus, with large cystocele and rectocele. To the preceding operations was added an anterior colporrhaphy with urethral torsion—Poussin's method. Third group: Total prolapsus. To the perineo-vaginal restorations, Alexander's operation was added in two cases, and abdominal hysteropexia twice; one unsuccessful case—Alexander's—because of phlegmon of the abdominal parietes in an old woman, who was also a cardiac subject. An analysis of all these observations demonstrates that there was a marked dystrophy, combining enteroptosis, hernia, excessive sensibility, etc. It may then be concluded that a degeneracy of the tissues, especially of the muscles, plays a more important part in relapse than the degree of the primitive lesion, whatever may be the number and nature of the operations resorted to.

Treatment of Certain Forms of Mental Alienation and Associated Neuroses by Suggestion During Hypnotic Sleep. Lypemaniac Dementia, Refusal to Eat.—Madame G——, aged twenty-five years, affected with melancholia, extreme emaciation, fetid breath, declares that she has scarcely eaten for eight years. Very painful epigastralgia, suffocation produced by the slightest quantity of food, impossible to eat although hungry, in a condition of real inanition; as usual treatment had failed for eight years, hypnotism was resorted to. Sleep was at once produced by fixing her eye upon a stationary objection, and by pronouncing the word, sleep! She was told to sleep for twelve hours, and to eat what was given her, to which she submissively replied, yes. She eat a great variety of food, had no pain. This was repeated every second day, with suggestions to go to bed at 9 o'clock, and wake up next day at same hour. After a dozen sittings she was made to eat daily, and so by degrees hypnotism was only needed every fourth day. The morbid habit was broken, patient regained flesh, with final complete recovery.

Lypemania, with Suicidal Tendency: Choreiform Trembling of Right Extremity: Cure by Suggestion.—The patient, aged thirty-four, had had trembling for ten years, complicated with ideas of suicide; fainting spells, insomnia, nausea and great difficulty in walking. Had been treated by bromides, hydrotherapy, valerian, etc. Hypnotic suggestion cured her after a few applications.

Trifacial Neuralgia, Convulsive Attacks, Visual and Aural Hallucinations, Delirium of Persecution, of Sensual Passion Two Years Later, Cured by Suggestion.—Patient, seventeen years, no hereditary trouble nor convulsions during infancy. Began by facial neuralgia, right side, of the three trifacial branches, and seemingly connected with evolution of a wisdom tooth, lower, of same side. Attack lasted from one to four hours, two or three times weekly. After two months' attack, attended with partial loss of consciousness, irregular movements of the limbs, sensation of suffocation, of burning and alternate laughter and tears. Daily attack for eight days, with pains in back, throat, epigastrum, with various hallucinations, seeing frightful objects, etc.; menstruation suspended for two months. Treatment: Morphine, blisters behind right ear, valerian, oxide of zinc, assafœtida, sulfonal, gelatine baths; attacks continued and complicated with moral and mental perversions, *viz.*, aversion to her mother and grandmother, ideas of persecution and of scenes of violence. Hypnotico-suggestion proposed and accepted. Braid's method employed. After ten minutes patient slept; suggestion made that there should be no pain in the teeth, no suffocation, no visions nor persecutions, and that the menses should return in twelve days. There was a gradual cessation of all ideas of persecution, of visions and of aural hallucinations, and on the twelfth day menstruation appeared. During the following year this patient became subject to impulses of an amorous character, and threatened suicide if not allowed to marry a young man whose name even she did not know, but had seen in passing. First effort at hypnotizing failed. Second succeeded, and after six repetitions the mental perversion disappeared, with full re-establishment of health.

Melancholy, with Aural Hallucinations: Cure.—Mme. H.; forty years; physiognomy sad, with appearance of good physical health, no pupillar irregularity, speech distinct, no trembling of tongue or lips, but slight in the limbs; amnesia; does not know the day, the month, nor the year, nor what has occurred during the day; has various aural hallucinations; hears strange voices, one especially telling her she will suffer always and advising her to kill herself; smelling, taste and general sensibility intact; no rotular reflexes; sensitiveness to pain marked, and even a little more than normal, etc. Two efforts of hypnosis ineffectual. Tried a third, with six drops of chloroform on a handkerchief. She slept in a few seconds; slight agitation of the whole body; collapse of limbs; anæsthesia. Suggestion, that she should sleep at another time, should hear no voices, should keep the mind tranquil, and be aroused when her chin was touched. Hypnosis repeated, same suggestion, and after a few subsequent repetitions the patient was fully restored.

Acute Mania, with Increase of Violence During the Menstrual Periods.—Patient aged twenty years; violence extreme; rolled upon the ground, tore her clothes; necessary to be put under restraint. At the beginning of her menses she was subjected to hypnotism, and ordered to sleep for six days, to remain recumbent, to eat what was given her, and to go every morning to the closet. The suggestions succeeded. The eyes remained closed, and for four months she was made to sleep during her menstrual periods. The catamenial agitation was succeeded by a calm which seemed to influence her condition during the rest of the month. Other observations, viz., melancholic delirium, hallucinations, visual and oral, maniacal agitation during the menstrual periods, lypemania and hypochondria with suicidal tendencies, were relieved and cured by hypnotic suggestion.

ACADEMY OF MEDICINE.

Method of Curing the Boss or Protuberance of Pott's Disease, and the Means of Preventing It, Illustrated by Thirty-seven Cases.—M. Calot explained his method of operation for the removal of the above deformity, which resulted without an accident in the number of cases mentioned. His mode of operation is as follows: This very delicate operation consists in removing the posterior osseos callus, that prevents the vertebral column from reinstating itself. After its removal from behind the medulla, section is made of the osseous column to relieve its anterior malposition, and a division into two segments effected which are pivoted upon each other so that the column can be righted, and thus is the boss or protuberance at once effaced. This cruciform resection was done in two of the cases. In the remaining thirty-five the correction was produced by simple external manipulations, preceded or not by the removal of the projecting spinous apophyses. The objective purpose is to restore the normal position by retroflexion of the column which has been abnormally anteflected. In this deflexion, traction should be made upon the two upper and lower extremities of the verebral column by four assistants. Meantime the surgeon makes forcible pressure upon the convex point and directly upon the boss, and soon the two segments of the column are adjusted and the boss disappears. To maintain the adjustment equally, and before the patient awakes, these manipulations should be made under chloroform. The surgeon immediately applies a large plaster apparatus covering the whole trunk from head to pelvis. The plaster solidifies in a few moments, and cannot be displaced by the patient; treatment should continue from five to ten months.

Ankylosed Constriction of the Jaws.—M. Chavasse reported case of the above, an osseous ankylosis of the right tempero-maxillary articulation; of the left, fibrous:

operation, right articular resection; on the left, rupture of fibrous adhesions; certain violent maxillary movements necessary. Results of operation very simple; cure rapid and complete, with excellent functional restoration.

Enteropexia.—M. Villemin presented case of enteropexia; fixation of the intestine to abdominal wall; practised successfully to remedy accidents of obstruction, which occurred in the course of tubercular peritonitis in a young woman of twenty-four years.

Purulent Infection.—M Jullien cited a case of infection consecutive upon a superficial panaris, resulting in cure, after several arthrotomies.

Treatment of Sciatica.—M. Gerard-Marchant presented a woman afflicted with sciatica for ten years, which had compelled absolute rest. He denuded the nerve, and found it in a nearly healthy condition. He manipulated it, inflicting slight traumatism, afterwards closing the wound. Result, excellent; though the patient suffers a little, she is yet able to walk. He also presented a case in which silk suturing for acromio-clavicular luxation was practiced; result satisfactory. M. Quènu exhibited a patient who, on June 16th, underwent the operation of cholecystostomy for an infectious angiocholitis. Improvement began at once, and the cure was complete. The biliary fistula closed spontaneously at the end of four months; bile contained bacterium coli.

MEDICAL SOCIETY OF THE HOSPITALS.

Abolition of the Reflex of the Tendo Achillis in Sciatica.—M. J. Rabinski reported the absence of this reflex, or its great feebleness, as compared with that of the sound side, in many cases of sciatica. This was accompanied with notable amyotrophy, not only in intense sciatic neuritis, but even in neuralgic sciatica of a mild form. In one case the sciatica had produced a special scoliosis, as described by Charcot and the author, with almost total reflex abolition of the tendon of Achilles. Pains notably diminished under treatment, scoliosis attenuated, and the reflex reappeared, but with a marked difference between the two members. This phenomenon, which is not mentioned in the books, is of great importance as a diagnostic sign, especially distinguishing between true and hysterical sciatica, which latter is not veritable neuralgia, but a pain of a psychic nature.

Radiography.—M. Fernet presented photographs by Roentgen rays, confirming the existence of tumors of the mediastinum and cardaic displacement.

BIOLOGICAL SOCIETY.

M. Mariani had always observed an increase of urea and of azote in investigating the effects of inhalations of oxygen in cases of cancer, nephritis, syphilis (tertiary), hepatic cirrhosis, polysarcia, typhus, endocarditis, etc. There was invariably great diminution of the toxicity of the urine, with a sensible increase of the alkalinity of the blood, and hence the conclusion that inhalations of oxygen should be largely practiced in therapeutics, and in morbid conditions in which the regularity of the changes may be threatened.

Agglutinative Reaction.—M. Widal demonstrated that this is a reaction of infection. 1. It is found at the beginning of disease. 2. It subsides during convalescence. 3. It is not found in those who have been cured for a long time. 4. It is always found in cases of relapse. It is then a process of defence exercised during infection.

Blood Clot Non-Retractile in Certain Infected Conditions.—M. Hayem demonstrated the above fact. M. Gley has seen analogous cases, and finds in his investigations of the anti-coagulating action of peptone confirmations of M. Hayem's opinion.

Bacteriological Researches of Psittacosis.—MM. Fournier and Gilbert stated that the bacillus of psittacosis resembled that of Eberth, but differed in the remarkable permanence of its virulence. The reaction of Widal serves also to determine the differential diagnosis of these two bacilli.

Lung Surgery.—MM. Hallion and Tuffier recalled previous communications upon intra-pulmonary insufflation. Since then MM. Guenne and Longuet have published facts showing that analogous results may be obtained by placing subjects in compressed air. Their method is inferior to that which consists in increasing the intra-pulmonary pressure by artificial respiration practiced by the canula of Francois Frank.

Poisonous Qualities of Sweat.—M. Arloing says: For a long time the sweat was believed to be toxic, and only since the works of Cl. Bernard has it been supposed that it was not so—on the contrary, M. Arloing has always found it toxic when injected into the cellular tissue of animals. The dog is the most speedily killed by it; 22-100 of its own weight is necessary to kill a rabbit.

ANATOMICAL SOCIETY OF PARIS.

Intestinal Invagination Caused by a Diverticulum of Moeckel.—MM. Weil and Franckel: A child of four years and a half was suddenly taken with trembling, accompanied with vomiting and constipation; believing it to be an intestinal invagination, an operation discovered a portion of the small intestine sphacelated with an invagination caused by diverticulum of Moeckel; its location was at the end of the ileum, and near the ileo-coecal valve. Fifty centimetres of it were removed.

Diffused Meningo-Encephalitis.—M. Mettetal presented the brain of a girl of thirteen years who had died with general paralysis. Autopsy revealed diffuse meningo-encephalitis and atrophy of the frontal convolutions. M. Pilliet remarked that the title of general paralysis was not more confirmed than that of meningo-encephalitis.

Treatment of Puerperal Eclampsia.—Since the almost complete disappearance of puerperal infections in the maternities, eclampsia holds first place in the consideration of accoucheurs. Dr. Ferrè, director of the Maternity of Pau, has attached his name to this question of eclampsia, and has made some very interesting communications to the Congress of Geneva, among them the treatment of eclampsia by washing the blood, which gave him such remarkable results in 1894. In a lengthened series of observations the cures supervened upon injections of artificial serum. The prophylactic treatment by the absolute milk regimen should be vigorously maintained, although it does not notably diminish the albuminuria of pregnancy. Yet in spite of the enormous œdema, women submitted to the milk regimen have not had eclampsia nor any other toxic troubles at the time of delivery.

Syphilis of the Heart.—M. Lazareff recently saw two cases of the above at the military hospital of Oniazdoff of Varsovia. With the gummy and interstitial lesions of the muscular substance, many functional troubles are met with, such as palpitations; orythmia; irregular rhythmic action, or organic lesions, valvular endocarditis, pericarditis, endoavititis, etc. The clinical symptoms of cardiac syphilis are very variable, and it is very difficult sometimes to make a differential diagnosis from the lesions of rheumatism, gout, alcoholism, etc. In order to establish the diagnosis the etiology must be investigated, and the results obtained from mercurial and ioduretted medication, especially when the troubles are not very profound, and are unaccompanied by non-specific lesions. If the cardiac affection occurs in a patient who has had syphilis, and there are symptoms of chronic rheumatism or arthritism, specific medication should be prescribed. In these cases the results are variable; while there may be complete success, or very marked amelioration, it may happen that in some grave and complicated cases no effect whatever is obtained.

Results Obtained from Ablation of the Uterine Annexæ.—From recent discussions, the immediate effects, after laparotomy or vaginal hysterectomy, are nearly identical. Hence M. Pauchet concludes that the general cause of non-success common to the two modes of operation is due to the temperament of those operated upon. There are nervous arthritics who continue to suffer in spite of an excellent condition of the general health, and a complete local cure. The superiority of vaginal hysterectomy over laparotomy is owing to the fact that after the latter operation the uterus is left in place, and becomes a point of departure of inflammatory or painful troubles. Then again, each time that the condition of the lesions shall oblige the surgeon to sacrifice the ovarian function

by a radical treatment, he recurs to vaginal hysterectomy. In grave cases, this last involves less shock than laparotomy. There is less risk of peritoneal contamination, it causes no eventrations, and, above all, after a simple opening, permits adherent pockets, which it would be dangerous to expose, to be left in place. In cases of bilateral lesions, every time that the vaginal operation is contra-indicated, or the supra-pubic is especially indicated, complete utero-annexal castration by the abdominal operation should be resorted to. J. A. C.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow o the Academy of Medicine, New York.

Electric Baths and Dyspepsia.—This subject is discussed by Dr. A. De Martigny in a paper read before the Canadian Medical Society (*Am. Med.-Surg. Bull.*, October 10, 1896), from which the following are extracts:

"The word bath is here employed in its original meaning, the patient being plunged into water, the temperature of which he may regulate, but which varies in general from 97° to 100° Fahr. The apparatus is composed of a very large induction coil and different electrodes. In Dr. Tripier's system the positive electrode is the bath itself, in which the patient is immersed without touching the tub, being suspended by straps. The negative electrode is introduced into the rectum. Dr. Constantin Paul connects the coil with different carbon electrodes, suspended in the bath at movable spots. It is this latter system which I employ, modifying it slightly.

"Instead of suspending the two electrodes in the bathtub, I always place one of them in direct connection with the patient, and sometimes both of them when I am anxious to secure a more energetic and localized action. I often employ the rectal electrode of Tripier, which has a very powerful action against constipation. It has, however, the disadvantage of being painful. The coil used offers this peculiarity, that, instead of the ordinary interrupter, it has one made of a lever, which enables us to vary the interruption from 60 to 3,000 per minute, and even more when the lever is overloaded. The current with slow interruptions, from 60 to 200 a minute, acts particularly on the muscles. Rapid interruptions are especially useful in nervous and rheumatic affections. The bathtub must be insulated. The best is made of porcelain.

"In the treatment of dyspepsia we must act on the muscular and the nervous systems, and consequently apply both kinds of interruptions. This is the way to proceed:

"1. Rapid interruptions. One electrode near the lower part of the neck, not touching the patient, and the other at the lower part of the spine, or at the feet, and directly in contact with them. I sometimes apply directly one on each side of the spine, with movement up and down the back. The action on the nervous system appeared to me practically the same.

"2. I then try to influence the muscular system of the stomach and intestines. For this purpose I place an electrode on the abdomen, directly in contact, and the other at the same level under the patient, but not touching him. When there is constipation, I apply the rectal electrode of Tripier and place the other on the lower part of the abdomen.

"The strength of the current is regulated by the patient's sensitiveness. I do not give a current strong enough to hurt unless the patient asks for it himself, so as to obtain a more powerful action. I am convinced it is far better to employ milder currents, and also not to keep the patient under electric influence too long, especially in the beginning of the treatment, else pain might occur the following day, and discourage the patient from taking baths any more. I generally begin with five-minute baths, and increase the dose to fifteen minutes more. Most of the time when beginning electric baths I stop all other treatments and medicines for the purpose of removing all possible doubt, and make certain of the results being due to the baths only."

Six cases are reported in detail, and the author remarks:

"It will be noticed that the cases reported have all been observed for a year or more, and this is for the purpose of not speaking lightly, and of not exposing myself to take a passing and accidental improvement for a definite change for the better, due to this treatment. But agreeing with Durand Fardel and most of the specialists of the diseases of the stomach, I believe that seven-eighths of the cases of dyspepsia are due to disorders of the nervous system. I believe, moreover, that lethargy of the muscles of the stomach or the intestines has a large part in it.

"For a long time past specialists in these diseases have ordered their patients amusements, traveling, and, especially mountain-climbing. We all know what fine results can be obtained by these means. My opinion is that electric baths act in the same manner. * * * I find that electric baths are the best treatment to recommend to business men, to all who lead a sedentary life or whose nervous system is fatigued, like young women, for instance. The baths may be taxed with not giving a cure of long duration and with compelling the patient to come back to them periodically. This is certainly true, but such is the case with all treatments, travels and mountain-climbing in particular. Electric baths have over the latter the advantage of being of easy use and requiring no sojourning, which is always costly and sometimes impossible to undertake. It is clear also that dyspepsia is greatly due to one's way of living, and therefore, as the cause cannot be removed, dyspepsia is bound to come back with it. It is an immense advantage to have electricity to fall back on, which is sure to give complete relief and cure as long as the patient is under treatment."

Cure of Sarcoma in Algeria by Native Doctors.—Legrain (*Bull. de l' Acad. Med.*) describes several cases of sarcoma which he had removed and examined histologically. These had been treated by native doctors, who applied a tar obtained from certain bushes in the Sahara district, among them juniper. In each case the sarcoma was entirely and permanently cured. The question arises whether the supposed sarcoma may not have been a tuberculous affection, as tar is especially efficacious in tuberculosis, while it has no effect on sarcoma, and it is not always easy to distinguish a sarcomatous from a tuberculous tumor. Legrain adds that epitheliomata are unknown in Algeria except as they appear on a European. This may possibly be due to the vegetarian diet without meat, and absolutely without pork. Verneuil and Reclus asserted long ago that the herbivorous animals were much less liable to cancer than the carnivora, and they ascribe the six-fold increase in the number of cancers at their hospital during the last forty years to the increased consumption of meat by the laboring classes.

Triticum Repens as a Preventive of Scarlatinal Nephritis—Dr. E. M. Child writes to the *Medical Council* that he has found that the free use of an infusion of triticum repens (cough grass), a wineglassful four times a day, or oftener, will prevent kidney complaints following scarlatina. He begins as soon as the eruption is out, and even before if it is slow in coming. It is not objectionable on account of taste, and may be "trimmed" with sugar and milk with benefit.

He adds that an infusion of avena sativa, given hot in cupful doses, will assist in "driving out" any of the eruptive diseases, and is also a sedative of considerable value. It is made by taking a handful of oats, washing or dusting them thoroughly, and then pouring upon them a quart of boiling water. This is covered with a towel and allowed to stand on the back of a stove without boiling.

The Lewaschew Method of Substituting Salt Solution for the Effusion of Pleurisy.—This method was first announced at the Berlin International Congress, but further success with it leads Lewaschew to recommend it in still stronger terms, as he has now a record of fifty-two cases, all followed by marked relief and prompt recovery. Thoraco-

centesis is first performed, and as the effusion is gradually aspirated it is replaced by physiologic salt solution which prevents the collapse of the organs into the empty pleura, while the solution is gradually absorbed and exerts a general tonic and local antiseptic effect. The *Therapeutische Medicinische Wochenschrift*, of June 28, 1896, devotes ten pages to a complete *resumé* of the results and technique of this treatment.

Arsenic in the Treatment of Nervous Gastralgia.—*Medical Week*, (1896, iv., No. 32) states that Sir James Sawyer formerly Professor of Medicine at Queen's College, Birmingham, long ago acquired the conviction, strengthened by subsequent experience, that the best treatment of purely nervous gastralgia—characterized by pain when the stomach is empty, which is immediately relieved by the ingestion of food—consists in the internal administration of arsenic. The patient takes three times daily between meals, a pill containing 2.5. mg. of arsenious acid. This treatment is continued for several weeks, which is usually sufficient to cure the gastralgia. In grave cases the arsenical treatment should be associated with the application of derivatives to the epigastrium. With regard to the food of the patient during the treatment, experiments have shown that mixed diet is preferable to putting on the regimen employed in dyspepsia.

Formol for Bites.—Dr. Gonin, of Lyons (*Brit. Med. Jour.*), sends a note to the Paris Academy of Medicine, recommending formol for mosquito and gnat bites, also for bites from small animals. The bites should be covered with formol by a small brush or the surface of the bottle containing it. After evaporation the formal is again applied. Th soothing effect is instantaneous; there is never any inflammation. M. Gonin asserts that formol is efficacious for serpent and scorpion bites.

Arsenic in Scarlet Fever.—A Russian physician, Speransky, announces (*Semaine*]*Med.*, August 26, 1896) that he treated a large family of children with arsenic as a preventive measure, when one was attacked with fatal scarlet fever and isolation was impossible. Although they slept with the sick one, none of the rest took the disease except the oldest, eighteen years, to whom the arsenic had not been administered, and the youngest, who had been neglected and had only received occasional doses, with none at all for several days before the disease appeared. The arsenic was administered in Fowler s solution, half a drop at each of the two principal meals (eight and nine years) with half this amount at three years. When the three-year-old child was taken with the disease he received half a drop three times a day, with powders of phenacetin and terpin hydrate; the eighteen-year-old four drops, with the powders. The arsenic attenuated the disease in a remarkable manner after it had developed, with no fever after the first day, and the child so well that it was impossible to keep it in bed. The other cases treated outside showed the same results, a striking improvement in the course of the disease after the first day, with complete recovery in a week. The preventive doses were continued for six weeks.

RETROSPECTIVE DIETETICS.

Boiled Milk.—Practical and everyday experience (says the *Practitioner*,) shows that when milk is boiled it is not only more easily digested, but that it has a nutritive value quite equal to the raw article. Experiments undertaken by Dr. C. Chamouin (*Canadian Lancet*), first with kittens and afterwards with infants, showed that after repeated and exhaustive trials the kittens fed on boiled milk were "twice again as fat" as those supplied with the raw milk, and that the boiling of milk is the means of preventing the loss of innumerable lives by gastro-intestinal disease. Not only so, but it is more easily digested, and agrees with a far greater percentage of cases than unboiled milk. There is ample authority for this view of the case, but certain points must be attended to, else the results will not be so favorable. First, all the vessels in which the milk is carried, boiled and afterwards kept, must be scrupulously clean. Nothing else but absolute freedom from dirt will suffice. Then it should never be boiled in an open vessel. This should have a close cover. Lastly, it need not be kept at 212° Fahr. for more than twenty minutes. This is sufficient to sterilize and cook it, and no further boiling is necessary.

Scientific Food. The "scientific food" theory has had a set-back, having been "weighed in the balance and found wanting," says the *New York Tribune*. A detachment of fifty men of the United States army were sent out for a three days' march with "scientific rations" in their haversacks—little tablets of highly concentrated essences of coffee and bread—which, it was imagined, would be as serviceable as the bulkier drink and food in their usual form. At the end of the first day forty men were doubled up with cramps—their digestive organs could not assimilate the concentrated food, or were not satisfied with it, so the experiment was a failure.

Man cannot exist upon a chemical diet, for the plain reason that he is a man and has physical requirements and functions which demand food in other forms. Much may, of course, be done by science to improve food supply, to render it more wholesome, more efficient, perhaps more convenient and portable, but beyond such limits it can scarcely go. Bread is the "staff of life," and with meat, fruit, vegetables and other adjuncts, is apparently destined to remain so to the end of time.

The Grape Cure.—According to Dr. I. C. Rosse, in the *Maryland Medical Journal*, the first physiological effect of grapes is the promotion of the secretions and excretions, without irritation of the intestinal canal, when the grapes selected are proper for the treatment and there is no contra-indication. Grapes are of great value in cases of irregular digestion. They also have an aphrodisiacal effect when taken in large quantities.

The time of year at which the grape cure is most practicable at the Uval stations in Germany and Switzerland is from the middle of August to the last of October. The grapes are eaten preferably in the open air, before breakfast, and on an empty stomach, but if the stomach is weak a small crust of bread may be taken with the first portion, between 7 and 8 in the morning. The second portion should be eaten one hour before dinner; the third in the afternoon, between 3 and 5 o'clock, two hours after dinner, and a fourth may, sometimes, be eaten just before bedtime.

The grapes must be eaten fresh and ripe. They are to be crushed between the tongue and the palate, not the teeth. Beginning with from one to two pounds the quantity is to be daily increased half a pound until the prescribed quantity is reached, and then slowly decreased. The treatment requires from one to six weeks, during which all the heavy and greasy dishes, also all food that causes flatulence, are to be interdicted.

As a rule, the grapes especially suitable to bring about a therapeutic modification are those that contain a large percentage of grape sugar. When the stomach will not take the grapes by eating, the freshly expressed juice may be used. They may also be bottled by a special process (*procéde Appert*), and employed at any time of the year.

Externally, grapes have been used in the form of baths, which are provided at some of the European grape-cure stations for persons who want to be plunged into the mash of the grapes, while it is in a state of fermentation. These baths, used principally for rheumatism, were formerly recommended by Tissot in peripheral paralysis.

The grape regimen, as an after-cure, is regarded in Germany as indispensable to the completion of a thermo-mineral treatment. Whether used as a principal or as an accessory resource of treatment, in order to be well tolerated and successful, it requires the concourse of adjuvant hygienic influences, which may lead to the supposition that success has been obtained rather by such influences than by the grapes themselves. Dr. Rosse, however, has obtained the happiest results, aside from climatological influence, in patients who lived in town and used the grapes methodically at home, while from Maine to California numerous persons, prompted to try the cure, after reading his first paper on the subject, have written him most encouraging results from its use.

The Virtues of Spinach.—According to a lively French writer, Emile Gautier in the *Petit Journal (Hom. World)*, "two distinguished scientists—the German, Bünge, and the French veterinary surgeon, Gabriel Viaud—have clearly proved that spinach is the most precious of vegetables, on account of its medicinal and strengthening properties. * * *

"Long have been known the emollient and laxative virtues of spinach, owing probably to the salts of potash it contains. Nothing equal to it for scouring out the digestive tube, for expelling bile and slime, and as a consequence freshening the complexion. * * *

"For near a century it was well known that a dish of spinach was as good as a clyster.

"But it was not known that this was perhaps the least important of its physiological properties. * * *

"The richness of the blood, therefore the vigor of the subject, is directly proportional to the amount of iron it contains.

"This is why iron is the chief specific in all diseases which are attended by debility, depression, physiological misery—for example, in anæmia, chlorosis, pale complexion, neurasthenia—and also in protracted and tedious convalescence.

"But if iron is necessary to patients in order to secure their health, it is not less necessary to persons in good health who wish to preserve that health. It becomes exhausted after a time, just as the phosphates become exhausted in an over-cultivated soil. It is calculated that the loss of iron from the venous blood during its course amounts to 0.05 per diem. This loss must be made good if we do not wish any function to be impaired 'for want of manure'—that is to say, of iron.

"We have then to find iron in an assimilable form. That's the problem:

"Among the innumerable ferruginous preparations of the modern pharmacopœia, some are not absorbed and consequently are of no use, while others are only assimilated at the cost of blackening the teeth, or what is more serious, ruining the stomach. In fact, the remedy is worse than the disease.

"Hence it has occurred to M. Gabriel Viaud, already mentioned, to get from certain alimentary vegetables the iron—necessarily assimilable—contained in their tissues. * * *

"Some vegetables contain a relatively large dose of iron. According to Boussingault, the proportion is 0.0074 of iron in 100 parts of French beans, 0.0083 in 100 parts of lentils, and spinach still more.

"The chemist Bünge (also alluded to above) has proved that spinach and yolk of egg are aliments proportionately richer in digestible and assimilable iron than all the most renowned 'martial' remedies.

"Hence it follows that a person subsisting entirely on yolk of eggs and spinach, with milk (which also contains iron) for his drink, would be internally fortified against all surprises—endowed with iron health, if I may so speak.

"M. Viaud goes still further.

"Imagining that spinach, like other vegetables and like man himself, sometimes requires a tonic, he has proposed to give it a preparatory course of iron

"That is to say, he waters it with salts of iron, and he soaks the stalks of the freshly cut leaves in rusty water, thoroughly communicating to them in a high degree the dynamogenic and galvanic virtues ordinarily attributed to pharmaceutic preparations.

"Under the twofold forces of vegetative assimilation and of capillarity, iron, of which we may thus regulate the dose, just as we dose sugar mathematically by means of appropriate manures in the growing beet root, iron fixes itself in the tissues of the vegetable and we absorb it unnoticed.

"Paradoxical as this may seem, this method is not illogical. It has, moreover, the merit of utilizing as nearly as possible the processes of Nature, without changing anything in the habits or regimen of the patients."

Go-Without-Breakfast Cure.—This idea is not of recent origin, but within the last eight years it has spread rapidly, and statistics show that a million persons have tested and become satisfied of its physiological benefits, so its devotees say.

Indigestion is the cause of many ailments. Headache, insomnia, eczema, asthma, rheumatism, malaria and nervous prostration are some of them which it is claimed can be prevented, cured or relieved, by going without breakfast at the time that meal is usually served. The simple theory of the cure is as follows: During sleep the muscles of the stomach are resting. Gastric juice, that indispensable element for digestion, is not supplied then, nor is a sufficient quantity created in the stomach to digest a meal until nearly noon, or, rather, not until three or four hours after rising. If breakfast is eaten it is merely rolled around the stomach. Consequently the stomach ferments and produces material for discomfort in mind and body. Nature supplies only enough pepsin during twenty-four hours for two meals a day, and noon and evening are the proper times to eat. Accordingly, no breakfast should be eaten.

Hunger and appetite are two different sensations. Appetite can be indulged, but hunger must be satisfied. One should eat when hungry and then a good appetite will be enjoyed. The good results of this treatment are claimed to be these: Your normal weight will be gained; overfat people will lose their oppressive pounds, and the lean will take on good flesh. The brain will be clearer, the nerves steadier, the muscles stronger, and the spirits brighter. Brain workers and physical toilers will find that they have uniformity of ability for application. It is a remedy which does not need money or time, only some resolution and courage to break up a habit. It is not a hardship, except in imagination, for as a usual thing one is not hungry at breakfast time. If some inconvenience is experienced at first, the feeling is simply the "dying agonies of a bad habit." Before condemning it, give the cure a trial during a month. After one week, and sometimes sooner, its followers will feel themselves in better condition for all kinds of work.—*Exchange.*

Dry Regimen in Ascites.—M. Finsen reports complete relief of a number of cases of ascites by the use of a dry regimen. The patient is allowed to take but 400 grammes (about 13 ounces) of liquid in twenty-four hours. For the first three or four days the patients suffered much from thirst, the tongue was dry, the saliva had a saltless taste, and much inconvenience was experienced; but at the end of that time the urine, which had previously been scanty, became abundant and the ascites rapidly disappeared. The discomforts also disappeared. The ascites did not return as long as a moderately dry regimen was maintained, but increased when copious water drinking was allowed.

Fish as a Food.—For the sedentary man, whatever his calling in life, whose engagements permit him only to take just that moderate amount of muscular exercise which is in all circumstances essential to health; for a great proportion of women whose habits mostly are not, and often cannot be active, the nutritive elements afforded by fish admirably supply an important part of the wants of the body, says Sir Henry Thompson, in *Food and Feeding*. The moderate amount of flesh-forming material present in fish, and in a form which entails little labor on the digestive organs (for most persons certainly eat less fish than meat) and the facility with which fish may be associated with other elements—some fatty matters, with cereals and vegetables, as well as fruits—place it in the first rank of foods in that mixed dietary which is so suitable to those who lead more or less the kind of life referred to. I by no means say that it should supersede the use of meat altogether, although it may do so sometimes with advantage—a point only to be determined in each individual instance after some observation and experiment. For in all cases it is to be remembered that no man who has habitually eaten meat two or three times daily can at once exchange it for fish and cereals or vegetables without some discomfort, to say the least. All radical changes in diet, even in the right direction, require to be gradually made. The stomach conforms slowly when long accustomed to deal with highly nitrogenized animal food, to the task of deriving from unaccustomed materials the support necessary to the body. Given time for such modification of

function, and it is remarkable—at least it appears so to those who have not practically studied the subject—that a diet which, if adopted suddenly, might be equivalent to semi-starvation, may, by degrees, become the most healthful and nutritious which the individual can adopt.

Asepsis and Antisepsis.—During the tenth session of the French Surgical Congress, held in Paris in the month of October, 1896, an address was delivered by Dr. Felix Terrier, Professor of Surgery, Member of the Academy of Medicine and Surgeon of the "Hopital Bichat" upon the above important subject, and it may be said in advance that he is the eminent propagator of the aseptic doctrine in France. Dr. Terrier said:

To preside over the tenth Congress of French surgery is a great honor, and at the same time a very heavy responsibility. I desire to lay before you the conditions in which we can and should place ourselves, to make surgery truly scientific, that bestow upon us sure methods, and among them one that I urgently seek to introduce into practice and to recommend to the favorable consideration of the profession, viz., asepsis. Do not think for a moment that I pretend to explain to an assemblage of surgeons, the majority of whom are men of experience, what asepsis is, that has been so long and so often confounded with antisepsis. This method is well known to most, if not all, of you, and I have almost nothing to add to your knowledge of its practical utility. I desire, however, to always insist upon this doctrine, especially as in these latter years asepsis appears to be gradually taking the place of other methods that have preceded it.

As for myself, asepsis has one feature which I hope will not be disputed by you, and which is that it is essentially of French origin. Indeed, one may say that it was born in the laboratory of our illustrious compatriot, Pasteur. It was there that it took a concrete form; from there it passed into surgical practice, at first in an indirect way, intermediately by Lister and by antisepsis, and afterwards in an entirely direct way to aseptic surgery. I am able to say that I am always encouraged in my efforts to disseminate asepsis in France, by the approbation of the young co-workers in the laboratory of Pasteur, among whom I desire prominently to signalize Dr. Roux. The doctrine is a simple one, to sterilize everything that serves in operating upon and dressing the sick and wounded. This, as you see, is a veritable mathematical formula, and not, as I have so often repeated, a calculation of probability, which is the case when so called antiseptic substances are utilized. Unhappily in practice, as is well known, the pure mathematical formula undergoes modifications in this respect, that, considering an operation as an equation to be solved, two terms of great importance are not absolutely submitted to our formula—sterilization. These two terms are on the one hand, the patient, and on the other the surgeon. In the two cases the aseptic surgeon is obliged to abandon the rigor of his method; he must substitute a less perfect method, but practical; he substitutes antisepsis for asepsis. To say to you that the sick and wounded must be antiseptized, and the same with the surgeon, is nothing new to you. But how the antisepsis is effected is difficult to say and do, if we take into consideration the numerous methods indicated in practice by surgeons. How many ways of washing the hands, how many different antiseptics have been advised to be used alone or successively, in order to render antiseptic the skin of the subject for operation. I have often been astonished at the resistance of the integument when treated in this rough way, and it is true that in many instances I have been satisfied that there was partial denudation of the epidermis, which has always seemed to me to be harsh and rigorous, and to be carefully avoided. But, in making this remark, it is not in a spirit of criticism, but to demonstrate to you that the object to be attained, the sterilization of the integuments, being impossible, too much is done to obtain that end. Many surgeons who are still imbued with the pure theory of antisepsis, advise in these cases, and in an exclusive manner, the employment of antiseptics. This method, they affirm, gives them excellent results, whether there is or not a general infection at the same time with a local septic lesion. In other words, antisepsis is indicated whenever there are septic lesions; asepsis, on the contrary, is only utilizable when there are non-septic lesions to be dealt with. Such was in effect the rule of conduct with most, if not all surgeons, at least of those who, like myself, pursued the employment of asepsis, and met from the antiseptic surgeons the same opposition that they had to encounter in England, the hotbed of antisepsis. On the invitation of the Director-General of Public Assistance in Paris, I published a letter upon the organization of the service of surgery in the hospitals of Paris. The division of the service of surgery into two parts was accepted; one was reserved for the non-infected sick and wounded, and there asepsis was practiced; the other contained the infected sick and wounded, to be treated antiseptically. Upon these indications, which I believe to be entirely theoretical, two hospital services were constructed, or, one might say, a service and a half, for one of them was devoted to women. In 1890 I considered this division of hospital service as new and theoretical. I was mistaken, and some years later I found this organization in thorough and complete operation in St. Petersburg, in the service of Dr. Trachtenberg at the Hospital "Marie," and had the pleasure of meeting a confirmation of my theoretical opinions. But surgical formulæ, as well as others no less pretentious, do not last long, or rather become modified, and so much the better, for progress is only to be obtained at this price. A new evolution proceeds from a theory, and immediately takes its place in practice. I will explain:

We have come to doubt the real value of the antiseptics. Already their action upon spores is absolutely contested, and for my part—referring always to the researches of Pasteur—I consider it entirely null. This insufficiency involves a notable and fatal diminution of their action. Moreover, this really useful action was regarded as very superficial, and extended but slightly through the thickness of the infected tissues. The septic localities are surrounded by an extensive zone, in which the anatomical elements are impregnated with either microbes or spores. What is the conclusion? It is that the action of the antiseptic is very superficial, and it modifies but little the tissues that are impregnated with septic elements, and that these are microbic elements, and not spores. Besides, if the antiseptic is sufficiently energetic to destroy, or even modify the vitality of the microbes, it would act, too, upon the healthy tissues, and seriously compromise them. Every one knows how little resistance a certain number of anatomical elements possess, and how experiments have failed to make from saline liquids injections of artificial serum, incorrectly so called, which do not alter in any respect the anatomical elements, and are harmless. But the substances called antiseptic have other effects. When absorbed by the vessels, sanguineous or lymphatic, they produce poisonous residues, which, unfortunately, cannot be demonstrated, since the remarkable thesis of aggregation of my friend, Felix Brun. Finally, their elimination by the renal apparatus may determine in the kidneys temporary or persistent lesions of an exceptional gravity. The great frequency of black urine during the time of the Listerian antisepsis was an indubitable proof of this, and upon which it would be useless to insist further. Too often, when pure antisepsis is utilized, we see, after grave operations, general accidents manifesting themselves by symptoms of anuria or diminution of the urine, together with the appearance of albumin. These accidents, which speedily compromise the life of the subject of operation, are due evidently to many causes, and among them the poisoning produced by antiseptics and the renal lesions developed by their influence, often hold the first place. How often have we seen such accidents ascribed to operative shock, which is written in the English orthography shock, and which, I feel compelled to add, does not increase our intelligence of the facts which we observe. In fine, you see that the accidents due to the use and often abuse of antiseptics are both frequent and dangerous. Then we are compelled to diminish them and to lessen the doses of the substances used and by degrees, and naturally surgeons, myself among the number, have been induced to abandon them, in great measure,

and to utilize asepsis almost exclusively, which at least presents no danger.

After these general considerations it is easy to comprehend that in place of having two services, one of antisepsis and the other of asepsis, surgeons prefer to treat all the sick and wounded with pure asepsis, preserving the use of antiseptics for cases relatively exceptional, and rather as disinfectants than as antiseptics properly called. This is precisely what has been done for some time past by the Russian surgeon whose name I have already given—Dr. G. Trachtenberg, of the Hospital "Marie," and whom I have had the pleasure of receiving into my service at the "Bichat" for nearly a month past. Preserving absolutely intact the division of the sick and wounded, infected or not infected, sep ic or aseptic, instead of utilizing the two methods, as he formerly did, he employs asepsis and very rarely antisepsis. Such, too, is the end that I have proposed to attain in my hospital service, for a considerable time, seeing that in this service, as in the majority of French services that I have visited, there has been an entire promiscuousness between septic and aseptic sick and wounded. Moreover, I have already said, and will here repeat, that the majority of hospital administrations, and even those that should be more enlightened, seem absolutely to ignore the most elementary ideas of hospital surgical hygiene. This division of services has now existed for some time. It is accepted in Paris for the service of midwifery, and should be equally so for surgery. Nearly all surgeons are in accord upon this subject, which enables us to avoid all contamination that may occur from the simplest accident of the presence of an infected patient among others who are not infected. From the preceding, I have endeavored to show you the direction in which surgery at present tends, and I am impelled to remind you of the entirely French origin of this great scientific progress and advancement. I hope that if I have not convinced you, I have at least caused certain ideas of improved scientific principles, which are now guiding many among us to enter resolutely upon these new paths, to equally penetrate your minds, and induce you to substitute asepsis for Listerian or any other antisepsis. One of the most distinguished members of the Municipal Council of Paris, M. Paul Straus, in a recent article upon the budget and the great works of Paris, says in few words; "The majority of our hospitals are in a deplorable condition, scarcely different from what they were half a century ago." I certainly shall not contest this assertion; quite the contrary. Surgical services should be absolutely isolated from other hospital services, which is done in many countries, France excepted. There is one curious fact upon which I again insist, that an absolute isolation obtains in obstetric service, at least in Paris. The administration does not hesitate to make extraordinary sacrifices for that, but it seems to doubt that the same are necessary for surgery, and the surgeons who demand this complete separation are called *doctrinaires*. Every surgical service should be sub-divided into two, one for the treatment of the infected sick and wounded, the other for the non-infected. This already exists in two services of the capital, but I believe they constitute all. Should there be two amphitheatres for operations? I answer decidedly, yes, an annex to the department for infected patents, another for the non-infected. But our surgical services have need of other annexes, particularly if you consider the surgery that is to be absolutely scientific. There should be well organized laboratories, though they seem to be perfectly useless to certain members of the Controlling Board, who unfortunately have been sustained in the last sessions of the Chamber of Deputies. To deny the value of laboratories, especially in a country where laboratories have enabled Pasteur to make his extraordinary and useful discoveries, seems to me to be scientifically inexcusable. But there should be laboratories nevertheless, for the surgeon needs to make his physical, chemical, bacteriological and anatomo-pathological researches, and it often happens that he should experiment on animals as do physiologists, for a number of surgical questions are still to be answered, and whatever may be thought of our progress there still remains much to do. When these numerous modifications shall have been obtained, when most of us shall be in possession of perfected methods of action, then we shall be able to do—thanks to the scientific ideas revealed by our illustrious Pasteur—everything that is possible to save our patients, and to cure those who need surgical operations. The operation itself will be, I repeat, the solution of a veritable equation, the essential elements of which are well known. We shall certainly never know them all, but we will advance as far as possible in their investigation. If I effect a sort of mathematical exposition of these conclusions, it is because we are too easily subjected to the criticisms of certain so-called directing classes of our country. To them the surgeon should be able only to handle the knife skillfully; they do not doubt the amount of the knowledge he is compelled to acquire, and hence the reason of his special prominence. Recent facts have shown that the approaching age will see no modification of this singular mode of judging of surgery and surgeons. J. A. C.

Poisonous Effects of Bromides.—At the annual meeting of the Association of American Physicians Dr. Weir Mitchell read a paper on this subject. It has long been recognized that the bromides may increase the unpleasant after-effects of epileptic fits, especially the irritability of temper. This will in some cases be accompanied by ptosis and feebleness of the limbs, not rarely more marked upon one side than upon the other—just like some drunkards who can recognize that they are distinctly "drunker in one leg than in the other"—feebleness and dullness so marked at times as to amount to partial imbecility. This was the condition in a girl of seventeen, whose father, an apothecary, on the principle, "if a little helps, much will cure," had been giving her 150 grains of potassium bromide a day. The fits stopped, the child nearly did the same, lying for days in a state of imbecile collapse, but recovered rapidly when the drug was stopped. In two children, each of whom 100 grains of lithium bromide was given by mistake, a similar though milder condition developed. There were curious disturbances of memory, and they were quite unable to walk, the left leg being worse than the right. In many cases the author had seen melancholia and mental depression, even to suicide, produced by the continued use of bromides.

Seven hundred and forty operations were performed in the Surgical and Gynæcological Divisions of the Metropolitan Hospital during 1896.

OBITUARY.

DR. GEORGE H. TAYLOR passed to the spirit world December 9th, in the seventy-sixth year of his age.

Dr. Taylor was born at Williston, Vt., and graduated at the New York Medical College in 1852, having attended his first course of lectures in Harvard Medical College. His attention was early directed to massage and the movement treatment of disease as practiced in Sweden. Having studied the system thoroughly in Stockholm he established himself in this city, and in 1864 commenced the invention and use of mechanical massage through machines adapted for the purpose.

These machines are run by an electric motor, and are so ingenious in their construction as to act upon every muscle and organ in the body.

Dr. Taylor had retired from active practice, but continued to act as consultant with his partner, Dr. Patchen, to the time of his death. He was the author of several books and monographs, principally connected with his specialty, and was held in high esteem by all branches of the profession.

DR. CHARLES HEITZMANN, one of the ablest pathologists in this country, died in Rome, December 6th.

PROF. WILLIAM H. PANCOAST died at his residence in Philadelphia, January 4th, aged sixty-four years.

MISCELLANY.

—There have recently been twelve cases of typhoid fever among the sixty-six pupils of the Mount Sinai Training School.

—Prof. Atwater says corn meal is the most nutritious food in the world.

—"Sanitary coffins" are advertised in England. In this case remarks a contemporary, concern for the health begins a trifle late:

—The Polyclinic Hospital, which was destroyed by fire on Christmas, is to have a new hospital as soon as the funds can be raised.

—A case is reported of menstruation at seven days of age. The mons veneris and breasts of the infant were considerably developed.

—Low as the death rate is in this city—the lowest since organized as a city—it is still more marked in the State, being only 14.75 per 1,000.

—Dr. Mercer, of Port of Spain, claims to have cured several cases of cataract with Cinereum Maritima. Others have tried this remedy with like results.

—The German Hygienic Association offers a prize of $1,200 for an essay containing original research upon the efficiency of electric heaters for domestic purposes.

—A bill will be presented to the Pennsylvania Legislature the coming session to execute criminals while asleep by turning the gas into the room in which they are confined.

—The fear of red objects is not always a sign of mental decay, but sometimes of neurasthenia, and even of hysteria. It is occasionally seen in health, but only in a slight degree.

—Human blood has recently been kept in an unaltered state for several weeks, by placing it in ordinary test tubes under a mixture of sulphuric ether. The test tube must be tightly corked.

—A magnificent new hospital will be built in Boston at an expense of $3,800,000, the gift of Peter Brigham, who died a score of years ago. The institution will be opened to the indigent only.

—The Russian physician, so it is said, considers it beneath his dignity to send an account to a patient, but leaves it to the latter to pay what he thinks proper. Many think it proper to pay nothing.

—An infallible sign of death is said to have been discovered by "an eminent medical authority." It consists in the failure of the light to penetrate the hand of the supposed defunct when exposed to the X-ray.

—Lanolin, mixed with 10 or 15 per cent. of its weight of icthyol, is found to be an admirable remedy in ciliary blephoritis of the eye. A colyria of 3 per cent. of icthyol acts promptly in phlyctenular conjuctivitis and catarrhal ophthalmia.

—Never perform an operation without examining the urine for sugar, no matter what its specific gravity may be. If glycosuria exists antiseptic precautions should be redoubled, but the condition does not contra-indicate necessary surgical interference.

—"I wonder if Maceo is really dead," said Mrs. Hashcroft, as she poured the coffee. "In view of the fact that his physician is said to have had a hand in the affair, it looks as if it might be true," said the Cheerful Idiot, and the medical student boarder looked scalpels.

—A newspaper correspondent reports that Miss Lillian Russell, the actress, when bicycling, uses "her plaster cast self-adjusted nature fitting saddle," and seems "comfortable and happy. There are many of these plaster cast saddles now in use among women of the wheel. The cost is only $25."

—The much-ridiculed devotees of the blue glass cult, may take fresh courage, since at the recent session of the British Institute of Public Health an eminent savant declared that it was now indisputable that violet rays kill bacteria. It is simply necessary to transfer one's affections from blue to violet glass.

—So impressed is the Legislature of Norway and Sweden not only with the advantages but with the public duty of vaccination, that before a couple can be legally married certificates must be produced showing that both bride and groom have been satisfactorily vaccinated, Perhaps it is argued that immunity from smallpox is hereditary!

—Dr. Whitney, of Boston, according to the *Boston Medical and Surgical Journal*, says you cannot make an absolute identification, and say this is human blood, but you can say this is consistent with human blood. This is an important admission, in view of the evidence sometimes given respecting such marks in criminal cases.

—At the last meeting of the British Association for the Advancement of Science, Dr. Dawson Tucker stated that the ordinary glow-worm emits X-rays which will pass through solid bodies, even a thin sheet of aluminum. He found that even when not visibly glowing, the insects gave off a radiation which affected the photographic plate.

—Dr. Watson, of Boston, has lately published a case in which an hour-glass stomach from a cicatrized gastric ulcer was cured by establishing an anastomosis between the two halves of the stomach. The symptoms of pain, nausea. and vomiting were entirely relieved, and in five months she had regained twenty-two of the forty pounds in weight, lost in the year preceding operation.

—*Salicylate of Strontium.*—Clinical observations show that in doses of 5 grains its antiseptic properties are most energetic. Doses of from 10 to 15 grains in gouty and rheumatic subjects give the same results as other salicylate preparations, but its superiority lies in the fact that it does not interfere with the stomach; it is therefore especially indicated in digestive troubles in chronic rheumatism or gout.

—Sir Joseph Lister has been raised to the House of Lords—the first British medical man to be thus honored while still connected with the profession. A member of that august assembly once expressed his contempt at the idea of sitting there with "a fellow who will thrust his finger into your anus for a guinea." The prejudice has probably subsided; yet it is unlikely that the new peer will remain in practice.

—It is interesting to note that cycliug sometimes has the effect of reducing the weight of the fleshy person and increasing that of the thin one. This may be explained by Murchison's observation that "excessive leanness, as well as excessive corpulence, is often caused by inaction of the liver, and the stimulus of regular exercise, setting the function of that organ right, causes the disappearance of what was only a symptom."

—Prince Czartoryski, a member of the Austrian upper house, gives it as his opinion, based on observation of Austrian Polanders, whose lack of education is proverbial, that the illiterate are better behaved and more sensible than the average well-educated person. He declares it as his belief that enlightment is not essential to happiness and prosperity, and draws a comparison from history that would seem to substantiate his theory.

—At a recent trial in this city, says the *New York Medical Journal*, a medical "expert" was examined in regard to certain points in neurology. In the cross-examination he was asked if he recognized a particular book as authority in the matter, and the question was repeated in regard to another book, and then another. His answers were to the effect that he was familiar with all the books mentioned, and that they were authorities on the matters alluded to. The medical witness was then allowed to leave the stand, and the lawyer's clerk was sworn, who testified that the titles of the works in question were fictitious, having been concocted in the law office to which he was attached.

ORIGINAL ARTICLES.

OLD TRUTHS VINDICATED: ANIMAL MAGNETISM, OD, AND HERTZIAN LONG WAVES.

By Leon L.

"By that I know the learned lord you are!
What you don't touch, is lying leagues afar,
What you don't grasp, is wholly lost to you;
What you don't reckon, think you, can't be true;
What you don't weigh, it has no weight, alas!
What you don't coin, you're sure it will not pass."
—*Goethe* (*Faust, 2d part, act 1*).

"The inveterate errors always act as resistances, which are stronger than a new truth."
—*Baron von Liebig* (*Agriculturchemie, 1855, p. 38*).

"But it was so at all times; always falsehood stood at the threshold whenever the still young child of truth was craving admittance. In the proportion, however, as the child increaseth in growth the error shrivels up, and loses its power. A few years' longer delay is all it can produce."—*Baron von Liebig, Polemical Treatise Against Dr. Wolff, p. 43.*

THERE always existed an irreconcilable antagonism between occultism, magic, esotericism, or what may be embraced under the general term of metaphysical speculation on the one hand and physical science on the other, although both aim at one and the same end, viz., knowledge and truth. This antagonism is not merely due to the difference of method employed in their common pursuit, but rather to a question of principle. The one starts from the outset with a ready-made ideal of its ethics—an ideal rooted in human imagination, and as such ever shifting and changing according to time and environment, ignores the world of reality, and even the true nature of man in building up its heaven-penetrating edifices founded on the mere reflections of subjective consciousness, accepts the vagaries of the mind as revelations from a world forever inaccessible to our senses and experience; in short, is constantly drifting into the realm of poetry and mysticism; the other moves on the exclusive ground of absolute reality, deals only with true, substantial, incontrovertible facts, accepts nothing as truth unless it can be experimentally demonstrated and verified as objective reality, and this, with disregard of the hopes and aspirations of the conceited human ego, unconcerned at the various ideals happening to spring up at different times and among different races, unmindful even of the ethical demands without which society cannot exist. True to this principle, science ever guarded mankind against the luring suggestions of imagination, and, whenever a thinker allowed himself to be carried into regions where experience ceases, she was quick in calling him back to the real world of law and order, matter and fact, crucible and balance. To the adherence to this principle by the representatives of science the world owes the eradication of the numerous errors and superstitions handed down from past ages, and the immense accumulation of knowledge in all branches of scientific research.

It is the true mission of science to be the guardian of truth and knowledge. Science, however, only too often transgressed her rights, when in her zeal of checking the encroachments of error and imposition she became intolerant—nay, even more intolerant than the Church, if some independent thinker dared to express truths which did not fit into the fabric of her accepted theories. Without discrimination she then condemned alike the mere dreamers, who, for aught we know, may be the savants of to-morrow, and the ingenious investigators who discovered spheres of research, the very existence of which were *a priori* denied by her. Everything she did not understand or was unable to explain she made short work of, by declaring it "impossible," as though one of her own representatives, the immortal Arago, had not declared "he is lacking in good judgment, who, with exception in matters of pure mathematics, utters the word 'impossible.'"

The impossible of to-day is the acknowledged fact of to-morrow.

If it were not for the prevailing criminal intolerance, science 2,000 years ago might have studied with Empedocles his theories of natural selection, and the survival of the fittest, which Darwin proclaimed in the nineteenth century and for which he was declared a heretic by the French Academy.

But we need not search so far back in the past for instances of this intolerance. Just read the ignominous way in which Erdan uses Hoenoé Wronski, the discoverer of the "Loi Suprême," of which the celebrated Lagrange declared that it comprised the whole of modern mathematics. There is no polytechnic nowadays who does not study his Wronski.

Already in 1849 Burq established the direct influence of metals on the human organism. It took thirty years before M. Charcot succeeded in gaining official recognition of this fact.

Even to-day, when the word "impossible" is obliterated from the dictionary of physical sciences, the telephone and the phonograph were looked upon with suspicion by the same scientific skeptics. M. Bouillart has immortalized himself by closing the nose of the man who operated the phonograph before the French academy, because he thought that the sounds emitted could not be produced otherwise than by ventriloquism.

These incidents and reflections force themselves upon the mind when one considers the fate that was prepared for the discoveries of animal magnetism and od. Here, too, we shall see how science obstructs with thorns the path of budding truth, but we shall also have the satisfaction to see that truth, though delayed for a time, must come out triumphant in the end. Let us briefly review the history of these discoveries.

In 1775, the physicist and physician, Frederick Mesmer, in Vienna, issued a treatise in which he established the theory that from all animal bodies, and especially the human body, emanated a peculiar force similar to that of the loadstone's, capable of being conducted to other bodies and possessing a great curative power. The many wonderful cures which he effected by the use of the magnetic power he possessed drew popular attention to the new method of healing to such an extent that Louis XVI. ordered a commission of scien-

tists to investigate Mesmer's claims. As the result of their investigation they gave their opinion, to the effect that the great success obtained by Mesmer in curing diseases was to be ascribed to imagination, if they were not frauds altogether.

Mesmer had claimed that the magnetic fluidum was *luminous*, and this claim, after the discovery of somnambulism, was also substantiated by almost all somnambulists, who declared that a light emanated from the body, and especially from the finger tips, of their magnetizers. Now, this light could be seen by none else but the somnambulists; hence the assertion in the *rapport* of the Academy of 1784 that the fluidum claimed by Mesmer "does not exist," in proof of which it is stated "that it could not be perceived by any of our senses." It does not seem to have occurred to these savans that, following the same schoolboy-logic, they were bound to deny mineral magnetism, too.

How well deserved, in view of this attitude, seems the reproach hurled by Goethe at the face of these blinded men of science!

Although the continued cures effected by Mesmer and his disciples gave ample proof of the curative agent they taught, Mesmer and his system (called briefly Mesmerism) were henceforth proscribed by the majority of scientists and physicians. It was with Mesmer as with all other discoverers ahead of their times. Was not Galileo tortured, and Giordano Bruno burnt at the stake for teaching truths that were too big for the small brains of their contemporaries? Mesmer, it is true, was not burnt, but they did their best to stamp upon his brow the stigma of the charlatan, and to discredit his system as unworthy of consideration.

If Mesmer, for the sake of profit in his medical practice, surrounded his cause with a great deal of quackery, it was certainly no reason for condemning the cause itself, and worthy men among his followers, like Puysegur, Peteton, Count Barbarin and others, have, by valuable discoveries, amply rectified the faults he committed. It is the course of science to evolve truth through error. Has it ever happened that the hidden elements of great truths of Nature have at the first attack suffered their veil to be lifted without reserve? And, consequently, where did the false treatment of any scientific subject by some erring person ever justify the rejection of the subject itself? It was this, however, that happened to animal magnetism.

There were some courageous, unbiased minds who dared to brave the odium of ignorance and quackery associated with the study and practice of animal magnetism, and these, after investigation, were fully convinced of the truth of Mesmer's claims. Thus Samuel Hahnemann and his distinguished successor, Dr. Lutze, practiced the mesmeric treatment, and in their works recommended its use to their liberal disciples. Schopenhauer, the great German philosopher, wrote: "He who in our days denies the effects of magnetism, is to be called not merely incredulous, but ignorant." The great majority of the learned and physicians, however, especially during the period when science became cankered with rank materialism, dared not tamper with the subject of mesmerism, for fear of being looked upon as unscientific.

In modern times, however, we see the strange phenomenon of facts being allowed to pass without criticism, which, in the last century and at the beginning of the present, were regarded as shameful impositions. The animal magnetism of Mesmer has been rebaptized and brought before the world under the name of hypnotism, and they are very careful, in spite of the striking similarity, not to compare the effects of the magnetic baguette with those of the bright object held before the eyes of the subject. As regards suggestion, it is claimed to be something entirely new,* and they will not recognize in the magnetic passes of the mesmerist. This word, like faith and others of the same kind intended to explain everything, in fact explains nothing, but it serves the purpose of those who use it, true to Goethe's saying: "Where thoughts are lacking a word comes opportunely." Does it explain the strange influence exercised by the will of one person upon another? Does it give us the rationale of the wonderful cures effected? Does it enlighten us on the states of clairvoyance and clairaudience or on any of the phenomena generally ascribed to the all-powerfulness of the word suggestion?

These and other phenomena can only be explained by the theory advanced by Mesmer. We shall show in the course of this paper that the force he claims to emanate from the human body, call it animal magnetism, neuric force, or by whatever name you choose, exists, though not limited to the human organism; that it is *luminous* and subject to the same laws as light and electricity, and that its actual and not merely theoretical existence can be experimentally demonstrated. Before doing so, we must, however, speak of another discovery, the odic force, closely related to animal magnetism.

Dr. Philip Karl, Baron von Reichenbach, one of the most eminent naturalists of his time, in the year 1840, created no little sensation by the announcement of his discovery of a new fluidum, which he called "od" (derived from the German god Odin, and meaning the all-pervading force). This force, he claimed, although not visible to everybody, could be recognized by its effects on more or less sensitive subjects, who were able to see luminous appearances issuing from the body and especially from the finger tips. According to him, this od accounted for the phenomena of animal magnetism, which was only the application of a single branch of this universal force for curative purposes.

Reichenbach built his theory on the following experiences: There are people whose susceptibility is so keen that, for instance, they cannot stay in a crowded car without throwing the windows wide open, who feel ill in church if they do not occupy a corner seat and are placed be-

*Already in 1823, Dr. Bertrand, in his "Treatise on Somnambulism," described all the phenomena of suggestion, including those of post-hypnotism.

tween two persons. There are people who can only sleep on their right side, or have a repugnance to eating fats, sweetmeats, etc., or who cannot bear if any one should stand behind them, or who feel an aversion to shaking hands. The nerves of such people are therefore peculiarly irritable, and they experience sensations unknown to the ordinary man.

This kind of people, called "sensitives" by Reichenbach, unanimously declare that they could see in the dark room all persons present enveloped by a luminous vapor, which appears of a bluish color on the right side and of a yellowish-red on the left. If you place your right hand into the left of a sensitive it will cause him a pleasant sensation of coolness, but if you place your left into his left, or your right into his right, he will experience an unpleasant sensation of heat. From this follows that hands with like od emanations repel, while those of unlike emanations attract each other, like the poles of a magnet. Passes made over a sensitive along the nerve tracks, with the hand opposite to the respective side of his body, have a calming effect upon him. With the downward motion of such passes the sensitive sees brushes of light escaping from the fingers of the operator.

This od is capable of being communicated from one body to another, and this, according to Reichenbach, accounts for the manifestations of sympathies and antipathies spoken of before. The od is also capable of being conducted through bodies, when they will appear glowing with light, if they are good conductors.

Reichenbach concluded from his experiments made on 13,000 sensitives, among them at least 100 professors of the various faculties, that od was a natural force related to all other forces of Nature, but essentially different from those already known to science. This force comprised a group of imponderable though perceptible processes in Nature, for which, so far, however, no other measure or reagent existed than the human nerve, and this only when in the peculiar condition of sensitive irritability.

Reichenbach described the result of his investigations in many books, which, though studied a short time after their publication, were later on expunged from the index of scientific works. He, the discoverer of the kreosot and paraffin, had the bitter experience of seeing the work to which he had devoted over ten years of his life characterized as tomfoolery and humbug by the learned profession who were incapable of comprehending his far reaching discovery.

In order to understand the adverse criticism encountered by Reichenbach's teachings, it is necessary to know the scientific views prevalent in his time and until only a few years ago.

The essential difference between the views hitherto held in physics and Reichenbach's may be expressed as follows: According to physics every body, be it a piece of lead or a bottle of sulphuric acid, is inactive; that is to say, it does not possess any forces of its own capable of acting at a distance. Magnetic iron alone possesses such forces in its natural state; to all other substances they can only be imparted by means of certain processes—*i. e.*, through electrification. The only force common to all bodies is gravity; this, however, is not a specific force dependent on the nature of the bodies, but a general one dependent on their masses. With respect to gravity, a pound of lead or a bottle of sulphuric acid are perfectly alike. Now, while it is true that bodies manifest no specific action at *measurable* distances, they nevertheless possess such forces, as may be seen in their chemical affinities. In this case, however, these forces manifest themselves only when actual contact of the substances takes place, or at molecular distances. Contrary to this accepted view, Reichenbach declares that from every body in its natural condition there issues a certain action at distance, viz., a certain current of force, the od, which could be felt and seen by sensitive persons. This force is claimed by him to be not only of a polar nature, inasmuch as bodies emanate positive and negative od, but even more differentiated, in as far as the od's lights may appear in all colors of the spectrum, according to the nature of the various substances. In addition to this he asserts that these od emanations are not limited to the magnet and electrified bodies—of which actions at distance are already known, but are also present in crystals, in all heated and insulated bodies, in all parts of the human body; in one word, in all terrestrial substances, whether they be of organic or inorganic nature.

Passing for the time being the other properties ascribed to the od, we shall briefly review some recent discoveries in physics which tend to prove the fallacy of the former standpoint and the truth of Reichenbach's views.

The propagation of light through space, which, as known, is at the rate of 300,000 kilometers per second, has long since forced upon physics the supposition that the whole universe was pervaded by an extremely tenuous, elastic substance, the ether, which propagates those wave-motions, as which light may be experimentally characterized. Other properties than those of propagating light and the invisible but thermometrically appreciable dark heat rays were hitherto not ascribed to the ether, since no experimental necessity presented itself for doing so. The luminous rays seen in the spectrum and the adjacent ultra-red and ultra-violet rays possessed waves, varying in length between 0.3 thousandth to 3 thousandth of a millimeter. From this it looked as though the ether essentially was capable of propagating undulations of infinitesimal short lengths, and, true to the principle never to predicate of Nature more than could be proven, they did not speak or even think of the possibility that the ether might have many more far-reaching properties. The very assertion of the existence of the ether worried not a little the physicist of strict observance, because its existence could not be directly demonstrated.

This view is now entirely changed, owing to the ingenious experiments of Prof. Hertz, in Bonn, who, while engaged in the investigation of electro-dynamic forces, obtained the most important results. He succeeded in measuring their velocity of propagation through space. His

method was as follows: He generated an electric spark between the two ends of a wire. With such a spark electricity moves, as is well known, extremely rapidly to and fro, changing its direction in about the millionth part of a second. If the path traversed by the spark lie vertically the electro-dynamic forces will be directed in these consecutive millionths of seconds, the one time upward the other time downward, and if this action were to propagate through space, let us say, with a velocity of one million meters per second, then the electro-dynamic action would change its direction at distances of one meter each. In wires at distances of one, two and three meters, currents would be generated moving in one and three in the same direction, in two and four in the opposite. This was the principle, and the experiment answered all expectations. It actually demonstrated an undulatory propagation of the electro-dynamic actions, and its velocity could even be measured with great exactness. It proved to be 300,000 km. per second, therefore equal to that of the velocity of light.

This is the first time that the propagation of a force through space is experimentally proven. As a further result it was found that these electro-dynamic waves were extremely long, from 300 to 6,000 millimeters, therefore about 15,000,000 times longer than the light waves. In perfect conformity with Reichenbach's description of his od, the electro-dynamic waves pass through walls, bricks, wood, in general through all non-metallic bodies, and are capable of being reflected and refracted

From these new facts a series of irresistible conclusions can be drawn, of which we shall adduce only those which directly agree with Reichenbach's assertions.

In an incandescent body the molecules, according to the generally accepted and well-founded theory, are in a state of a very rapid vibratory motion. This periodical motion throws the ether in the interstices of the molecules into undulations of the same period as the molecular motion, and the result is perceived as light; the body is *self-luminous*. If, however, the same body is not brought to so high a temperature as to make it aglow, but otherwise strongly heated, then will its molecules move in longer periods, *i. e.*, vibrate much slower, and the results of this motion are vibrations in the ether of greater wave-lengths, which we perceive as *heat-rays* as long as the temperature of the bodies is high, some hundred degrees.

As long as it was not known that the ether was capable of propagating waves of long periods no further conclusions could be drawn, but now we may, nay must, conclude with Hertz that at all temperatures the molecules of a body are vibrating, and that the periods of these vibrations are the longer in proportion as the temperature of the body is lower. Every motion excites the ether, causes it to vibrate. From every body, therefore, there must constantly issue an undulatory motion of the ether, capable of producing effects of certain kinds—optical, thermical, electro-dynamical, or other effects still unknown to us. From every body issues a current of force; no body is inactive, as was hitherto erroneously assumed by physics, but every body exercises a *specific* action at distance; specific for the reason because the duration of the vibration of every molecule, and consequently also that of the issuing ether undulation, are not dependent on the temperature only, but is also conditioned by the nature of the molecule. *With this conclusion, however, we have arrived exactly at Reichenbach's point of view, although we departed from a different line of investigation.*

Suppose there existed an eye whose retina was not only susceptible to the short light waves, but could also perceive waves of greater lengths—an eye such as we must suppose the sensitive to be possessed of—it could not fail to observe the phenomona described by Reichenbach. From all bodies it would see issuing luminous waves, the od light varying in color according to the wave length, varying in extension according to the intensity of the molecular motion. Nay, the eye, if sufficiently sensitive, must see the interior of certain bodies luminous, especially of those bodies which are built regularly, so that the ether vibrations are all polarized in the same direction.

Dr. Baréty, of Nice, has experimentally demonstrated that these neuric rays, as he calls them, obeyed the same laws as the rays of light, and most of his experiments were confirmed by M. Dumontpallier in several communications to the Société de Biologie.

Can these theoretical light emanations, claimed to be seen by sensitives, also be experimentally demonstated? Yes, they can be demonstrated *ad oculos*: they can be photographed!

This experiment was made and described by Reichenbach, and recently successfully repeated and verified by Herr Tormie, in Leipzig.*

From the foregoing considerations it would follow that the odylic phenomena are due to ether undulations whose waves must be of considerable lengths, at any rate of far greater lengths than those of light or radiant heat, so that probably the odylic waves coincide with the electro-dynamic waves. This supposition becomes almost a certainty when we compare the striking analogies, too numerous to mention here, which are to be found between the phenomena of the Hertzian waves and the observations made by Reichenbach. In fact, it is only by assuming this identity that we are enabled to explain a series of odylic phenomena which otherwise would remain unintelligible. Thus, Reichenbach found that light and radiant heat were always accompanied by od emanations. His sensitives feel the sun rays cool, incandescent bodies cause in them the sensation of a cool wind. When the molecules of a body vibrate in certain periods, each molecular vibration must excite in the ether waves of different periods, analogous to acoustics, where the fundamental tone is accompanied by a series of overtones. The fundamental tones, according to our conception, would act

* Reichenbach: "Odische Begbenheiten," p. 6.
Baréty: "Des Propriétiés Physiques d'Une Force Particulière du Corps Humain" (force Neurique Rayonnante), etc., Paris, 1887.

odylically, while the overtones act thermically and optically; the sensitive nerve perceives in the sunlight the fundam ntal tone, while the ordinary peripheral nerves sense the thermic rays, and the eye perceives the visible rays.

If the views as to the identity of Reichenbach's od with the Hertzian long waves are correct, the following experiments suggest themselves as practical and calculated to show definite results.

First: Sensitives ought to be able to perceive very distinctly the electro-dynamic rays, since it is exactly these very rays upon which they react. It ought to be possible to have, through the sensitive, directly traced and determined, that distribution of force around a primary electrical vibration, which Hertz after very subtle and difficult experiments found by means of a secondary conductor.

Second: It should be possible to intensify and concentrate the odic effects by the placing of both the radiating body and the sensitive into the focal space of a parabolic cylindiform metal mirror. Such a mirror keeps off all odic influences which are not directly wanted in the experiment, and, furthermore, concentrates all the variously directed od rays upon the focal space, and therefore upon the nervous apparatus that occupies it. In this manner even persons possessed of little sensitiveness could perceive all those phenomena which hitherto could only be observed by persons of great sensitiveness.

Third: Since, according to Reichenbach, the od emanations are not limited to the human body, but are also developed in all processes of Nature, like electricity, heat, chemical action, etc., it ought to be possible to construct an apparatus for the generation of od from these sources which might be introduced into the human system. If od and animal magnetism are identical, as is claimed by Reichenbach, the introduction of the od into a person would produce upon him the same effect as a magnetic treatment.

Experiments of this nature may at first glance seem to be of interest only to the physicist or physiologist. But if Reichenbach be right, the od is a natural phenomenon, which, though rooted in the purely mechanical process of molecular motion, extends with its ramifications far into the domain of psychic and mental action. In fact, the so-called magnetic passes by means of which hypnotic, somnambulistic, and other phenomena are produced, are but od passes, so that already here we find ourselves in the midst of phenomena studied by the "societies for psychical research." The effects of medication at distance can only be accounted for by these od emanations. Furthermore, if all actions, feelings, mental activities of man are associated with such emanations, sensitives can in the dark judge of the sensations and thoughts of men by their od emanations. Thought transference becomes a necessity, and may perhaps be more successfully effected by means of the concave mirrors mentioned before.

These few instances will suffice to show the importance of these phenomena for the physician and psychologist, who would do well to include them within the circle of their investigations.

THE CAUSE AND TREATMENT OF THE SO-CALLED SEXUAL NEUROSES OF THE MALE.*

By Bukk G. Carleton, M.D., New York.
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WITHIN the past twenty years gynæcology has made rapid strides in alleviating diseases peculiar to the female genital organs; and many are the conditions that were attributed to hysteria, crankiness, slothfulness, sour temper, etc., which are found to be caused by distinct lesions that can be and are relieved by medicine and the surgeon's knif .

While this great advancement has been made and gynæcologists have developed galore, the male sexual organs have received but little attention, except as connected with venereal diseases. The diseases of the male sexual organs, and especially their various nervous manifestations, as indicated by the sympathetic and other nerves and the associated circulatory changes, have been considered diseases *per se*, rarely attributed to their proper cause, but believed to be the manifestation of a brain or mind diseased, or arising *de novo*; hence the cause of these conditions has been generally allowed to pass without attention or treatment. And yearly untold thousands of bright minds are permitted to depreciate or become total wrecks mentally and physically. Were this not true we would not find Dana saying: "I do not believe it safe for a physician to prescribe illicit sexual intercourse. It is not safe or curative, apart from the moral aspect of the matter. It has always struck me as very degrading for a man to purposely select a wife to relieve him of the results of a weak will and vicious sensual indulgence. If marriage comes in the natural course of events, as it often does, so much the better; but to select a wife as a remedial agent for masturbation is unjust to the woman and a confession of a moral and mental feebleness. Man is distinguished from the brute by his self-control; let him therefore bear this fact in mind and raise himself by a determined effort of will. Pure thoughts and chaste associations, vigorous physical exercise and a resolute effort to act in a manly spirit will always be successful."

Keyes has stated that perfect health is consistent with chastity, and the idea prevalent, that carnal relations are necessary to manhood and health, from his knowledge and life study he believes to be fallacious. He further says, that when these organs are properly used, as Nature intended they should be, when called normally into action, like the lachrymal glands of the eye, they will not be found wanting.

McLaury, at the same meeting of medical jurisprudence, broadly defined the social evil as the expression of sexual love in a unnatural and unhealthy manner, or without the sanction of the

*Read before the New York State Homœopathic Medical Society, February 10th, 1897.

statute law, and inasmuch as love is higher than written law, law cannot control it. He also introduced twelve questions and answers. I shall quote only those that have a bearing on this paper.

First: What is love? It is the highest, the deepest, the broadest, the most profound sentiment and passion of the human soul.

Second: What is hate? Love turned sour.

Third: What is lust? Love gone mad.

Fourth: What is platonic love? Ideal sympathy.

Fifth: What is truth? What is, has been or is to be.

Sixth: What is sin? It is a want of conformity to, or transgression of God's natural higher law, or any transgression of a moral or physical law of Nature.

Carmichael, in his series of brilliant papers in the NEW YORK MEDICAL TIMES, says: "He's but a sorry specimen of a man who fails to be moved by woman's pure and chaste loveliness, God's handiwork; and he's a sorrier, the cortex of whose brain is fired with only fierce passion and unholy desires that would defile and pollute her. Further," he continues, "the sexual impulses of the cerebral cortex manifest themselves through the operations of the more exalted ideas and emotions that impel the natural and legitimate indulgence of the sexual functions; and it is only when they become perverted and debased that man ceases to regulate and control his sexual inclinations and desires, and then the term erotomania can only express the condition into which he has fallen; and the degraded erotomaniac follows his own unbridled lusts and becomes a fit subject for the restraining and protective safeguard of an asylum, as though he were a raving and irrepressible lunatic."

Krafft-Ebing says: "Periods of moral decadence in the life of people are always contemporaneous with times of effeminacy, sensuality, and luxury. These conditions can only be conceived as occurring upon increased demands upon the nervous system, which must meet these requirements. As a result of increased nervousness there is an increase of sensuality, and since this leads to excesses among the masses, it undermines the foundations of society and the moral tone and purity of the family life. When this is destroyed by excesses, unfaithfulness, and luxury, then the destruction of the State is inevitable, compassed in material, moral and political ruin."

The truth of this statement is more than substantiated by the history of nations passed, and the rapidly approaching dissolution of many now in existence who disregard and break the moral laws.

The Rev. S. S. Seward, in an address before the National Purity Congress, said: "Man is born neither good nor evil; his mind is not like a printed page, which must always bear the impress of what is stamped upon it, and which cannot be changed for better or for worse without destroying its identity, but like a blank page upon which he may, under God, write such characters as he chooses, whether pure or impure. Although the sexual instinct is strong, and, when once aroused, difficult of restraint, it is as much under our control with the divine aid and the use of wise methods as any of the other appetites of the body. If this is not so, there is no remedy for the evil, and 'we are of all men most miserable.' If it be so our task is simple—to discover the remedy and to apply it."

From these few of many ideas of the cause, continuance and cure of these conditions from the standpoint of the physician and the ministry, the opinion seems to be unanimous that the cause *per se* is a diseased brain, aggravated by environment and sensations produced and communications received through the special senses of sight, hearing, smell and touch.

We believe that man has been unmindful of himself, and while he has been cognizant of his sexual neurosis in a large majority of cases, he has not discovered the cause; in other words, he has seen the effect, has given it a name, but has not sought for or has overlooked the exciting cause. If we as physicians had studied regional anatomy and the nervous system, physiology, surgery, mechanics and materia medica more, and had given less thought to our supposed intuitive knowledge of these parts, or knowledge acquired in youth from those entirely unfit to give such advice, we should have fewer social invalids, ranging from the slightest manifestations to those of dangerous tendencies towards themselves and others.

Can we expect a boy who from any cause whatever becomes a masturbator and continues the habit, or, spends his time with lascivious thoughts of erotic tendencies, to become a man noted for his vigorous constitution and mentality?

Can a man whose thoughts are constantly tending towards carnal subjects be expected to carry on a successful business?

Can a man who allows carnal thoughts to impel him to commit improper acts, expect to succeed morally, intellectually, or financially?

Do you believe there is a man who, when told of the cause of his mental and physical degeneration, does not try to hold himself together and to become a man, and in all cases make an immediate resolve to change his habits? Some have themselves so well under control that they can to a great extent carry out this resolve, provided other conditions are favorable, and in this way may rescue themselves, but a large number fail.

In my opinion, after treating and examining a large number of cases of disease of the prostate gland and seminal vesicles, that the majority of all the so-called functional diseases of the male sexual organs and the neurosis referred to are a reflex from a positive, physical, local disease in the seminal vesicles or in the veru montanum and the surrounding floor of the prostatic urethra. If these lesions are recognized and properly treated, many, if not all, of these cases can be relieved and enabled to return to a normal moral sexual life.

Gordon, in a very excellent paper in the *Medical Record*, November 11, 1896, has said: "Early marriage would strike the severest blow against

prostitution, etc., (male or female,) *i.e.*, early marriage from a social point of view, still a timely from a physiological point, namely, if boys and girls whose sexual organs have completed their development, should marry, they would run the least possible danger of falling into prostitution or bad habits." Nature is a hard and rigid mistress, and when her laws are transgressed the consequence must be paid, even to the last pound of flesh. But shall we advise early marriage? Society is placing the period later and later as time rolls on, and to-day the general consensus of opinion is that men should not marry until many years after their sexual organs have arrived at maturity and they have acquired a competency of worldly goods, and possibly a broken-down constitution from the violation of Nature's laws. I have seen it stated in medical literature of recent date that man was the only animal that practiced beastly habits, but a slight knowledge of the lower animal kingdom refutes this; in all animals where there is an abnormal irritability of the parts from local congestion or disease, there the habit of onanism will be found. When we remember the abundant, sympathetic nerve supply of the prostate gland and seminal vesicles, and their intimate association with the rectum, anus, penis, urethra, bladder, testes, etc., and its blood supply and its return circulation, we can easily see how all abnormal conditions, irritation, or disease of these parts tend to cause an active or passive hyperæmia of the floor of the prostate gland and seminal vesicles; and how, if continued, will cause structural changes in the epithelium and sub-epithelial tissues of the veru montanum and adjacent floor of the prostate urethra; congestion, thickening, and hyperæmia of the seminal vesicles, and causing a constant irritation of the sympathetic nerves and their chain of little brains, not only in the hollow of the sacrum but elsewhere, and they, by their reflex action upon the cerebral cortex, produce sensual thoughts and acts. When this complex network of nerves is unbalanced by disease, is it any wonder that man, the greatest example of God's handiwork, is transformed into a beast? Do we expect a watch to keep good time when one of its jewels is disarranged? Can we expect a man to develop into a perfect man when his sympathetic nerves are constantly irritated?

The time has arrived when we must call a halt —when we must go deeper than the surface or superficial history in the treatment of these diseases. We must strike at the cause, and this we can only do as we become more studious, scientific and practical. Until we do this we are accountable for the wrecks of human beings that we see all around us; not only those who find their way as paretics to the insane asylums, but the great hosts of unsuccessful men without aim in life, without moral courage, or encountered in the less marked cases, of eccentricities that maim and destroy them.

Many are the cases of disease of the seminal vesicles and the veru montanum that we have seen treated as neurasthenia, general, mental and physical decadence, as exhibited in nervousness, indecision, mental and physical irritability, want of firmness or confidence in their own judgment and others, suspiciousness, with moral, physical and financial failure due to the above conditions; with marked symptoms of local sexual disease, *i. e.*, false impotency, priapism, satyriasis, diurnal and nocturnal pollutions, spermatorrhœa, prostatitis, etc., going gradually from bad to worse while under treatment for the condition with a total neglect of the cause. In our opinion, if the conditions that cause hyperæmia of the prostate gland and seminal vesicles can be eradicated, there will be no reason for lectures to young men on the dangers of masturbation and other unphysiological sexual acts, for if they are physically normal, I do not believe that association would ever succeed in seducing them, and a sturdy, healthy and moral race would be the result. The sexual instinct, as rightly sent through the nervous centers by the special senses, to the cerebral cortex and the medula oblongata, and reflected by them to the ganglion of Budge or genito-spiral, opposite the fourth lumbar vertebra, or the nervi-evegenetes of Eckhard, included in the three first sacral nerves, and of Eckhard and Goltz, midway between the brain and genital organs and their general distribution, would be on the high moral tone of Nature, and perverts of all kinds would cease to exist. The reason why treatment has failed in the past has been due to the fact that the cause was not recognized.

Prevention.—The cause must be removed by proper attention to the genital organs of the young male before it causes structural lesions. In many cases it would be advisable to make a circumcision, in others a proper meatotomy. I have not infrequently found a contracted or pinhole meatus urinarius in men past middle life, who suffered from so-called sexual neurosis, frequent urination and many reflex symptoms, which were all immediately relieved by a proper meatotomy and the administration of the indicated remedy. Acute or chronic anterior or posterior urethritis, simple or specific, or its sequelæ; strictures, congenital and acquired, prostatic disease, calculus of the bladder or prostate, diseases of the bladder, constipation, diseases of the rectum, worms, congestion of the liver, conditions of the urine arising from gout or rheumatism, lithæmia, surgical or traumatic lesions of the prostate, sexual excesses, masturbation and mental suggestions, etc., impure literature, injudicious treatment, want of sexual hygiene and attention to physiological laws, in fact anything which interferes with the sympathetic nerves or acts upon the arterial or venous circulation of the parts; each and all must be studied and the proper medicinal hygiene and surgical treatment instituted. The improper association of the sexes must receive special attention. I have treated many cases caused from this most pernicious habit, of great sexual excitement without complete gratification. Alcohol and tobacco in all forms must be prohibited—if their use is continued the treatment will of necessity fail. From these fragmentary remarks, which for want of time are merely an outline of what a paper on this

subject should be, it must not be inferred that the author is of the opinion that all mental, moral and physical and financial failures, or general depravity, are due to lesions within the sexual sphere; but he is firmly of the opinion that a large number arise primarily from impulses conceived and originating from irritation or disease of these parts.

Treatment.—Remove, if possible, the cause of the lesion in the prostate or seminal vesicles and then treat the local condition. Do not make your diagnosis from the patient's statement or from his supposition of the cause, but from a study of the pathology and physiology of the case. Second: Advise sexual hygiene and physiology. Third: *The indicated remedy.* And it is in this line that we have a great advantage over our friends of the old school, as Lydston and Fuller, who have given this subject special consideration, who say, that frequently, after the cure of a local lesion, symptoms may remain for months or years, while we, with our remedies, frequently remove them at once.

As I have within the past year had the pleasure of mailing to each member of this society a reprint on the symptomatic indications of the more frequently required drugs in the so-called functional disease of the male sexual organs, it would be a waste of time to recapitulate. I will, however, name some of the more important remedies, *i. e.*, agnus castus, baryta-carb., caladium, calc. carb., cantharides, capsicum, china, chlorin, conium, cobalt, digitalis, dioscoria, gelsemium, graphites, ignatia, kali-bich., lycopodium, natr. mur., nulv. phos., nuphar luterim, nux vomica, phosphorus, phosphoric acid, picric acid, platina, salix nigra, selenium, staphisagria, stramonium, sulphur, zincum.

Fourth, local treatment: In my own practice, where there has been a diseased condition of the seminal vesicles the best results have been attained from massage and stripping applied from the rectum about once a week, sometimes assisted by the use of the rectal psychophore with hot or cold water, as individual cases would seem to require. Great care must be taken not to give massage too vigorously or too frequently, and thereby cause acute inflammation, etc. Occasionally iodoform or icthyol rectal suppositories, one grain each, used at bedtime, have acted very satisfactorily. In all cases the bowels must be properly regulated, but an active cathartic should never be given. Attention should be paid to the liver and the portal circulation.

When the lesion seems more in the prostate a full-sized warm or cold steel conical sound, the urethral psychophore or deep urethral douches of nitrate of silver, 1 to 8,000 to 1 to 500 (administered with a two-drachm Taylor syringe, and a soft rubber catheter, No. 8, French, 8½ inches long, and lubricated with glycerine), every fifth day, to the floor of the prostatic urethra. Thallin sulphate, 6 to 8 grains to the ounce of warm water, or Ulzman's solution, may be used as indicated. All solutions for irrigation of the urethra should be used at the body temperature, and never cold. The douches should be given with the greatest care and gentleness, and with the most strict asepsis, or they may produce more trouble than relief; *i. e.*, acute prostatitis, urethrocytitis, epidydimitis, etc. Strong solutions must never be administered. Five per cent. emulsions or suppositories, applied with Harrison suppository sound, have given excellent results. Electricity is frequently of great benefit, but it should never be used except on the advice of or by an expert. These different local measures may be used for some time individually, or alternating one with the other, as the requirements of the case may indicate.

RETRO DEVIATIONS OF THE UTERUS.*

By Louis Frank, M.D., Louisville, Ky.

Gynæcologist to the City Hospital.

IN the short paper which I shall present to you this evening it is not my purpose to attempt to express any new ideas, nor to astound you with any startling theories as to the causes or cure of backward displacements of the uterus, but rather by citing some of the more important and recognized operations for this condition to call forth a discussion by which we may be enlightened, and to show possibly to these gentlemen not doing surgical work the differences of opinion existing among surgeons as to the best methods of treating these cases. With the causes and pathology I will not deal, as it would consume too much time of the Society, and make a paper of greater extent than would be permissible in our short session. Suffice it to say, however, that we must recognize in the consideration of retro-deviations (retro-versions and retro-flexions), that we may have, on account of pre-existing inflammatory conditions in the pelvis, a uterus fixed without disease of the appendages sufficient to justify their removal, or the pathological condition associated with the deviation may be so extensive as to make it of more importance than the displaced uterus.

Our treatment naturally falls under two heads: The surgical or operative and non-operative, the latter consisting of pessaries, tampons, massage, rest cure, intra-uterine stems, etc., being clearly applicable only in that class of cases where the uterus is perfectly movable, or where slight adhesions may by proper manipulation be so stretched and attenuated as to permit the uterus to go back to its normal position. Operative treatment may also be applied to the same class of movable uteri without other pelvic disease, and it is clearly the only method to be adopted in those cases where the uterus is fixed, either completely or in such degree that by the methods above indicated it cannot be returned. I would like to add here that in my opinion retro-displacement is not a disease, is not a primary pathological condition, but that it is merely a symptom; consequently, unless we ean arrive at the initial cause of the displacement, our treatment must be

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symptomatic. Even if we could ascertain the cause, in many instances the changes which have taken place may be of such character that our treatment must necessarily first look towards restoration of the organ itself. There are some displacements of this character, for instance, which may depend upon lacerations of the cervix and the increased weight of the organ, or which may depend upon lacerations of the perineum.

Let us first for a moment turn our attention to the non-operative treatment: I believe that in this day of brilliant surgery, of daring surgeons, and establishing results obtained from operations, that we very often neglect to treat this class of patients by other than operative means. We are not content with the so-called "old time" methods, but for the purpose of figures showing numerous recoveries, we unnecessarily operate upon these cases. Much good in many instances would follow the other plan of treatment, and when I say operative I refer to those methods in the carrying out of which the peritoneal cavity is opened, and also to various methods of vaginal fixation and to the Alexander operation.

I would not include the minor operation of curetting, when necessary to relieve an enlarged and engorged or sub-involuted uterus under this heading. Properly applied tampons or properly applied pessaries following curettment, or other means tending to deplete the uterus and cause involution will at times, and especially when followed by impregnation, result in perfect cures.

As to the operative methods: As I have said, in a certain class of cases operation is imperative. I will consider first the Alexander operation, on account of its applicability to a great number of cases, and then ventral fixation. The results of vaginal fixation have been so bad that I do not believe any man who had the future welfare of his patient at heart would carry it out. If I mistake not Mackenrodt himself has abandoned it. There are other methods of operating per vaginam, such as shortening the round ligaments, vesico-uterine fixation, etc., which I only mention, but will not discuss, though I believe in certain cases one or the other of these procedures may be advisable. The various operations of intra-abdominal shortening of the round ligaments are not open to the objection that indiscriminate ventro-fixation is, but should bear in mind that it is often unnecessary to open the abdomen in the cases where this may be carried out. The cavity being opened, however, we may then, if we desire, and it is required, adopt them.

The Alexander method is, in my opinion, the best operation in all cases of movable uteri which non-operative methods will not cure. Again, in all cases where it is undesirable to remove the appendages, this is the operation that should be carried out. The adhesions can be separated through the vagina by the anterior or posterior incision. Or, better still, if there is probable disease of the appendages and their removal becomes a question to be decided at the time of the operation, it is perhaps better that we go in from above by a small incision, which can be closed and the round ligaments then shortened. The advantages of the Alexander operation in those cases where it is desirable to carry it out are that it does not interfere with subsequent child bearing; the mortality is *nil*, and those undesirable features which have lately been so prominently brought forward as a result of abdominal section are not present. I do not believe, however, that where it becomes necessary to do a double oophorectomy, or where the Fallopian tubes and ovaries are so diseased that their normal function is impaired to such a degree that the woman cannot become pregnant, which is discovered only after abdominal section, that it is advisable to make incisions into the groin for the purpose of securing the ligaments. In those cases we had probably better do a ventral fixation. Ventral fixation would then be indicated as the operation, where after abdominal section the appendages are so diseased as to require their removal, or, in other words, where after section we find that the woman's child bearing function is done away with. Unless this is true we are sure to have trouble following pregnancy. In doing ventral fixation, I would not advise the use of buried sutures; they invariably give rise to more or less trouble and may often cut through. Abrasion of the peritoneal covering of the uterus with one at the corresponding point upon the abdominal wall, and allowing the sutures to remain about two weeks, which time is sufficiently long for firm fixation, is all that is necessary. The woman should be kept in bed, however, for three or four weeks. We must be careful in doing a ventral fixation to stitch the uterus sufficiently high to prevent interference with the bladder function. These operations, as I have previously intimated, do not cure the disease nor do away with the primary cause thereof. It may be necessary in many of these operations that we primarily curette the uterus. It is unnecessary I hope to call your attention to the fact that trachelorrhaphy, perineorrhaphy and colporrhaphy must be done when indicated, as without these, if conditions necessitating other procedures be present, no permanent benefit will result.

DISCUSSION.

Dr. August Schachner: I quite agree with the essayist in regard to the Alexander operation, where we do not open the abdominal cavity, that the Alexander method is by far preferable to going into the abdominal cavity and doing a ventral fixation, for the reason that it is safer, and also, as he has pointed out, it is not open to the objections that have been urged against abdominal section. Of course it must also be recognized that the round ligaments are sometimes in such condition that even the Alexander operation is not productive of the best results. Where the tubes and ovaries are to be removed, I believe instead of doing a ventral fixation, we should also remove the uterus. This is certainly the most rational operation. A uterus is of no benefit after the ovaries and tubes have been removed, and it may give subsequent trouble by displacement or otherwise.

I was especially interested in the question of

ventral fixation during the last summer, particularly as to what the effect would be if pregnacy followed ventral fixation. It will be remembered that Dr. Krim reported to this Society a case in which there was a great deal of trouble. While in Baltimore a few months ago I asked Dr. Clark of the Johns Hopkins Hospital whether they had experienced similar trouble; he said that Dr. Kelly had done ventral fixation quite a number of times where the patients had an ovary and tube removed, and that these women had become pregnant and had experienced very little trouble. A friend of Dr. Kelly's, however, in Philadelphia, reported that he had encountered about the same trouble that Dr. Krim related before this Society. Dr. Clark stated that in doing a ventral fixation if the uterus is anchored only to the peritoneum, if the stitches do not go in deeper than the peritoneum, there will be no trouble at all in the event pregnancy takes place after the ventral fixation. Dr. Clark emphasized the point that nothing should be included in the stitch but the peritoneum, which would be the only anchorage the uterus had.

I merely mention this, as the question gave rise to considerable discussion at the time Dr. Krim reported his case.

Dr. W. H. Wathen: I can add little more than to approve what has been said by the essayist in regard to the methods of operating for retrodisplacements. It is difficult to decide in many cases just what operation is best to perform. I believe it is best to perform no operation if there are no adhesions, until you have exhausted every other means to relieve the patient, and even then if you cannot restore the uterus to its normal position, I do not feel that an operation would be indicated unless the displacement is causing the woman to suffer a great deal. I formerly had very little confidence in my ability to permanently cure any case of retro-version or retroflection of the uterus, where there were no adhesions, by the use of a pessary, but in the last four or five years I have changed my mind very much. I find there are many cases that can be permanently cured, if there are no adhesions, by the proper and continued use of pessaries, combined with other treatment. Where there are no adhesions the Alexander operation cannot be performed, because we cannot separate the adhesions, and the operation if attempted will not be successful. I have never had much faith in the Alexander operation. I have not had the results from this operative method that have accrued from other operations for restoration of the normal position of the uterus, and I have not found in the conditions following the operation by other men a permanent improvement which encouraged me in performing the operation. I think the best work has been done in shortening the round ligaments by Dr. Kellogg, of Battle Creek, Mich., but recently one of the patients upon whom he had operated, returning the uterus to its proper position, keeping her in his sanitarium for a long time, and having her use a pessary afterward, which had been removed and a smaller one applied, etc., came to my office in a worse condition than she had ever been. I believe that the only operation of real value for restoration of a retroflexed uterus is one in which you fix the uterus by some means to the anterior abdominal wall. I agree with Dr. Frank that we have not yet seen enough good resulting from any form of vaginal fixation to justify us in performing the operation. It is true that August Martin and other gynæcologists have operated a great many times by this method without any mortality, and with apparent good immediate results, but the subsequent results I do not think will be good, and we have had some evidence that they are far from good.

There were several methods of fixing the uterus to the anterior abdominal wall, and it is not decided which is the best. I believe I was the first person to do this work in Louisville; I have done a great deal of it, and have used all the methods of suturing the uterus to the abdominal wall. I have used sutures going through the entire abdominal wall into the uterus, one upon each side, including each cornu of the uterus. I have used sutures going through the abdominal wall and through the fundus of the uterus—two or three sutures. I have had very good results following this method, but in one instance it was a failure. I have used the buried suture, including the peritoneum of the abdominal wall, introduced into each cornu of the uterus, and have had good results from that method. I have used, and this has been the method that I have practiced nearly altogether for the last two years, the buried suture, including the fundus of the uterus, using two or three sutures, not including anything but the peritoneum of the abdominal wall. The only trouble with the buried suture is that you will occasionally, despite all possible care, have some suppuration.

Two women came to the city to consult me about two weeks ago, one from the northwestern part of Illinois, the other from London, Ky., upon whom I performed this operation nearly a year ago, and in each case there was a small sinus. By proper manipulation I succeeded in removing the buried suture and had no trouble in getting the sinus to heal. If we could be sure that we would have no persistent and dangerous suppuration following the use of the buried suture, it is certainly far better than any other method of suturing. You may use any kind of suture that will not be absorbed too quickly. Catgut and kangaroo tendon I find become absorbed too rapidly, and we cannot be sure of obtaining permanent union. We may use silk, silver wire or silk worm gut, and if we include in this suture nothing but the peritoneum of the abdominal wall, or a little of the fascia and a little muscle, we will find in these cases if examined a year afterward, that the uterus adhered to the abdominal wall over a considerable surface, and that the adhesion has become elongated from ½ to 1½ inches, forming a distinct pedicle as it were, holding the uterus in front, so that the organ while not allowed to return to its retroplaced position will be permitted to ascend without trouble during pregnancy. And this is what Dr. Clark means, I infer, by including only the peritoneum of the abdominal wall in the sutures, for by this means

we have a band which will allow such a decided movement of the uterus as not to interfere with the continuation of pregnancy or with labor at term.

Dr. J. G. Sherrill: I quite agree with Dr. Wathen that the Alexander operation does not offer any especial advantages. While it is apparently a very simple operation with very little immediate danger in it, I think the results to be obtained are not what we would expect. From the fact that I have several cases that were not permanently cured by this method, and from the anatomy of the uterus, I believe it is not suported to any great degree by the round ligaments. The round ligaments are very small in structure, containing some fibers inside of the peritoneal covering, and in almost all cases in which I have made a dissection I have found that the round ligaments, instead of being tense and forming a firm support to the uterus, have been in a relaxed condition. I am led to believe, therefore, that the support to the uterus from these ligaments is practically *nil*, that its main support is from the lateral or broad ligaments; those folds in the peritoneal fascia form a support to the uterus on either side, extending from the fundus down almost to the neck. It is the fascia covered by peritoneum that supports the normal uterus in such manner as to keep it suspended between the sides of the pelvis. As the round ligaments have little to do with supporting the uterus, the Alexander operation, in my opinion, is not indicated in cases of retro-displacement. After all other methods have failed, if operation is decided upon, fixation to the abdominal wall is the only procedure to be considered. If it were possible in some way to shorten the broad ligament without removal of the appendages, such a procedure might be indicated, but it has never been done successfully, although it has been successfully performed by removal of the appendages, taking out enough of the broad ligament to shorten it, and in this way lifting up the uterus to some extent from its retroverted position.

Fixation to the anterior abdominal wall can be accomplished by means of the buried suture, and I would prefer a very fine silk suture, only including the peritoneum of the abdominal wall where we leave the suture buried. I have seen this operation performed a number of times where the results were good. I have never seen pregnacy follow one of these operations, so personally cannot determine as to what the effect of pregnancy would be, and to what extent the woman would suffer. I believe, however, if as Dr. Frank states, the suture be removed, using silk worm gut inserted through the fundus of the uterus and through the abdominal wall, this will give fixation necessary to support the uterus, at the same time remove any danger of bad symptoms occurring during pregnancy, so that the attaehment of the peritoneum of the uterus and the peritoneum of the abdominal wall will accommodate itself to the uterus when it arises in the abdominal cavity.

As regards vaginal fixation: I do not see how perfect restoration of a retroverted uterus can be accomplished through the vagina. The space in which you have to work is necessarily very small, and your ability to fix the uterus is thereby hampered; at the same time the bladder space will be so encroached upon that the organ may be seriously interfered with, and in nearly all cases troublesome symptoms will develop afterwards.

Dr. August Schachner: A word or two more in regard to Dr. Clark's suggestions; I do not want to be responsible for having him misquoted. I only spoke of what Dr. Clark told me, and he was particularly emphatic in stating that we should only include the peritoneum, not even the transversalis fascia in the sutures, certainly none of the muscle. Of course, if the sheath of the rectus muscle were included in the sutures the fixation would not yield in the event of pregnancy. I simply want to emphasize the quotation from Dr. Clark that nothing be included in the sutures except the peritoneum of the abdominal wall, not even the transversalis fascia, in order to secure the best results from ventral fixation.

Dr. A. M. Vance: I have operated a number of times by both the Alexander method and by ventral fixation for retroverted uteri, and must say that good results have followed both methods. Pregnancy has occurred afterwards and the women were perfectly relieved of retroversions, which were very marked in each case. One of the cases in which I did a ventral fixation had a great many reflex symptoms following the operation, resembling the stomach symptoms of pregnancy. A double oophorectomy was first performed, then the retroverted uterus drawn up and fixed to the anterior abdominal wall. She had a great many reflex symptoms, but finally got well. This is a feature that has not been mentioned which deserves some consideration in bringing up a retroverted uterus and fastening it tightly to the abdominal wall. In this case I used silkworm gut, which was left *in situ* for two weeks. No trouble developed from the sutures.

I believe that a great many of these cases are permanently cured by pregnancy.

Dr. Louis Frank: I have seen bad results following ventral fixation; I have seen bad results following the Alexander operation, but I am inclined to think that the bad results following the Alexander method have been due to the fact that the operation was not properly done, the ligaments have not been shortened sufficiently, and the patients have not been given time in which to allow the weakened structures to recover their normal tone.

The great trouble in considering all operations for relief of retroversions and retroflexions, as has been shown in the discussion to-night, is that we do not look at the primary cause, we do not seek out the primary cause of the trouble, we merely attempt by a method of mechanics to fix the uterus in a situation which resembles its normal position, though by any operation which tends to fix the organ to the abdominal wall, we necessarily substitute one pathological condition for another. We have a pathological condition in fixation of the uterus to the abdominal wall, which, while not so bad in a great many cases as in retroversion or retroflexion, yet it may give

rise to symptoms similar to those produced by fixation behind. We do not try to seek out the primary cause, we do not try to get rid of the pathological change which causes the displacement, that is, increased weight of the organ in the majority of cases, intra-abdominal pressures, subinvolution following pregnancy, etc. For my own part I think the cause of sub-involution occurs because of mechanical interference with the pelvic floor preventing the proper support of the organ.

I have looked up the literature of the subject rather extensively, and find that all operators today condemn, as a rule, abdominal fixation. At a recent meeting of the International Gynæcological Society this was very well brought out, Pozzi, Polk and others condemning this method of operation in those cases where the tubes and ovaries are left behind. I believe with Dr. Vance that if we can give the organ the necessary support long enough to allow pregnancy to take place, we will cure many of these cases. I also agree with what Dr. Wathen said in his opening remarks, that by treatment with pessaries and other measures tending to reduce the volume and weight of the organ, with rest, and I would add that these patients subsequently becoming pregnant the trouble will disappear in many instances. The reason that many of these patients are sterile is that there is an endometritis accompanying the displacement, and pregnancy seldom occurs until the endometritis is relieved and the displacement corrected.

As to stretching of the adhesion after abdominal fixation: If we take up sufficient surface, if we make an adhesion between the peritoneum of the uterus and the abdominal wall, of sufficient extent to hold the uterus in position, there will be no stretching, and if it is true that there is stretching, then we have more reason for performing the Alexander operation rather than subjecting the patient to the additional danger of doing an abdominal section.

As to the buried suture: I think it has been well borne out by all operators that buried sutures give trouble. This trouble is not necessarily due to septic infection, although it may be the result of infection coming on late, for the reason that the organisms causing the suppuration are deeply buried in the sutures. The mechanical effect of the presence of a foreign body may often set up trouble sufficient in the vast majority of cases to necessitate re-opening and removal of the sutures. We know that foreign bodies often cause trouble of this kind; it is not a true bacterial suppuration, but we may have tissue necrosis or other troubles resulting from the sutures.

The Queen of Portugal is reported to have been experimenting with the X-ray. She has detailed the ladies of her court to serve as subjects, and has been making pictures of their skeletons. It seems that these gave such an alarming insight into the distortion wrought by tight lacing, that the female nobility of Portugal rushed to order gowns six or eight inches wider in their waist measure. It would be a curious instance of the unexpected turns in human affairs if tight lacing, denounced in vain by medicos and moralists, should finally be suppressed by Dr. Röntgen's invention.

HYGIENE OF PULMONARY TUBERCULOSIS.

By S. S. Hall, M. D., Ripon, Wis.

Of very great importance is the answer to the question: Is consumption curable? Of much greater importance is the answer to the question: Is consumption preventable?

There is no controversy in regard to the etiological relation of the bacillus tuberculosis to tuberculosis. It is equally certain that there is necessary for its development an inherent or acquired debility or lesion of tissue that permits its implantation and development. The inherited predisposition, inherent errors of growth and nutrition of tissue, the so-called constitutional etiological factors, are well understood, but amid the great interest in the new-found bacterial origin, have not, perhaps, received sufficient attention of late.

The bacillus probably does not gain access to or thrive in healthy tissue in vigorous constitutional conditions. Jacobi says (Keating, "Cyclopædia of Diseases of Children," Vol. 2, p. 16): "In order that virus or a bacillus may find a resting place, the surface must be in a morbid condition. A mucous membrane of normal consistency and function is not very liable to admit infectious disease. Neither diphtheria nor tuberculosis finds a safe nest on a healthy membrane. So long as a mucous membrane is covered with normal mucus and protected by vibrating epithelium, foreign bodies, from particles of carbon or metal to bacilli, are liable to be expectorated. Only the air cells which have no fimbriated epithelia, allow bacilli to rest and develop."

Abnormal structure of tissues is inherited or acquired from unhygienic conditions, or such diseases as anæmia, chlorosis, measles, whooping cough, typhoid fever, scarlet fever, pneumonia, etc., forming a soil in which the bacillus finds an easy lodgment and conditions which favor its subsequent growth.

Weber says (quoted by Powell, "Diseases of Lungs and Pleura," 1886, p. 192.): "A fruitful source of phthisis is the tendency to catarrh of the respiratory mucous membrane. First: By producing numerous abrasions upon which the bacillus can settle. Second: By weakening epithelial cells and their ciliary action in favor of the parasites. Third: By rendering respirations more shallow to the same effect. Fourth: By weakening the nutrition and energy of the whole system." The influence of damp and ill-drained districts was early recognized as a cause of phthisis. I well remember the enthusiasm, so to speak, of Dr. H. I. Bowditch in 1866, after a thorough investigation of the causes of pulmonary tuberculosis in New England. He cites many instances in which, in houses with damp cellars and situated on low ground in the vicinity of swamps, phthisis appeared in previously healthy families who resided in them. At his clinic one of the routine questions to his patient was: "Is your cellar dry?" It is easy to be seen that the conditions found by Dr. Bowditch favored the de-

velopment of the necessary predisposition. Buchanan's investigations in England are to the same point.

Dusty occupations, bad air, unfavorable social conditions, all favor the development of the predisposing cause.

Recent investigations make it certain that tuberculosis is common in dairy herds, cattle and hogs. The proportion of dairy cows infected has been variously estimated at from 5 to 15 per cent. As high as 75 per cent. has been found in some herds, and 30 per cent. is common. Gathering the milk from a large number of cows in creameries, and separating the cream with centrifugal machines, would appear to make it certain that our creamery butter is infected. Swine and calves are fed on skim-milk so obtained. An investigation of this subject is earnestly needed. The State has taken great pains and gone to large expense to eradicate glanders in horses. Why not take similar steps to remove the danger from tuberculosis which threatens us on every hand? not only destroying property, but probably many human lives.

Experiments of Chauveau, Bollinger and others, indicate that the flesh of animals with local tuberculosis is not infective, but that butchers may get infected material on knives and spread it more or less generally over previously uninfected meat.

At the International Veterinary Congress at Berne, September, 1895, a resolution was passed that the flesh of tuberculous animals should be condemned when the carcass is emaciated, when it has a general bad appearance, when tubercles are found in the muscular portions, and when alterations are found in several organs; that the flesh of slightly tuberculous animals be sold in special stalls or cooked before being sold.

In Germany, cases of slight infection are sold after removing diseased portions. (*Popular Science Monthly*, May, 1896, page 138).

Roth tested thirty-six cows, which showed no evidence of disease in the udder, and in twelve of them the milk and cream contained tubercle bacilli.

Recent statistics from abroad show that of 45,000 swine slaughtered for market, 11 per cent. were tuberculous. Swine fed at creameries upon skim milk of the contrifugal machine, show a per cent. of 60 to 70 of tuberculosis. Butter, made from the cream gathered by the separator, contains more bacilli than does that from raised cream.

The report of the English Royal Commission says (quoted from Shepman, *Jour. American Medical Association*, May 2, 1896, p. 861): "We have obtained ample evidence that food derived from tuberculous animals can produce tuberculosis in healthy animals."

The ordinary processes of cooking applied to meat which has got contaminated *on its surface* are probably sufficient to destroy the harmful quality, but would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts.

Osler says ("Osler's Practice") that "it seems to be established that no infection takes place through expirations of tuberculous patients, but the sputum, when dried, liberates the bacilli, which may then float on particles of dust in the air and may produce the disease through inspiration."

Bacilli are found on the walls of rooms occupied by patients. The person, especially the hands and face, of patients, is liable to convey the bacillus by contact and it probably finds its way to food in this way. In the light of our present knowledge of the predisposing and exciting cause of pulmonary tuberculosis, it is very easy to point out hygienic measures tending to prevent or limit its spread.

It must be admitted, however, that with our present social conditions, it is not easy to accomplish the end for which we aim. If the physician could select the parents of the child and intelligently guide the processes of growth, education and environment, the end could, probably, be attained with some degree of certainty. But the day has not arrived when this can be hoped for. Then all we can do is to guide the accidental phenomenon who has inherited a weak constitution, bound to "catch" everything that comes along, through the mazes of whooping cough, measles, scarlet fever, etc., see that it has proper nourishment, clothing, fresh air, bathing, exercise, etc., if we can. Instruct the parents in what climate they should live, in what kind of houses—in short, everything that will tend to develop sound bodies out of the imperfect and defective materials put into our hands. Bronchitis, whooping cough, and measles are especially liable to be treated with indifference, both by parents and physicians. They should be most carefully treated, to secure a healthy condition of the mucous membrane after the attack. Anæmia and chlorosis should be regarded as danger signals, opening the portals to the entrance of the most dangerous virus.

The greater prevalence of pulmonary tuberculosis among people who are deprived of abundance of fresh air, teaches a lesson that is not difficult to read. Take, for instance, the investigations of Cornet (*Journal American Medical Association*, May 2, 1896, p. 888) in regard to the death rate from phthisis among religious orders devoted to nursing. Among over 4,000 residents, 62 88-100 per cent. of the total number of deaths occurring during twenty-five years were from tuberculosis. In some cloisters 75 per cent. of the total number of deaths were from this cause.

How can contagion be prevented? By securing, so far as possible, healthy tissue, invulnerable to the lodgment and growth of the bacilli; by securing perfect personal cleanliness in patients, all sputum being retained in a moist condition until it can be destroyed by fire or other antiseptics. Fortunately, these means are the best for the patient, invigorating the system, and preventing to some extent auto-infection. Thorough ventilation and outdoor life lead to the same result. The sick should not be permitted to sleep in the same bed with the well, and, if not neces-

sary for the care of the invalid, should not occupy the same room, especially at night. Carpets should be abolished. Rugs that can be shaken out of doors are much better. Sweeping should be prohibited. Curtains should be easily removed and cleansed, as well as all furniture. Rooms and houses recently occupied by patients should receive the same treatment as those occupied by patients with other contagious diseases. To this end the reports to health boards of cases of tuberculosis should be insisted on.

CLINIQUE.

OPERATION FOR FIBRO-CYSTIC TUMOR.

By E. A. Lee, M. D., Fort Collins, Col.

THE rarity of the following case serves as a sufficient apology for reporting it to your readers.

May 10, 1894, I was called to attend A. F. H., male, aged seventy-six years, living one mile east of Fort Collins. Found patient suffering from a moderate attack of la grippe, which, owing to his age and rather feeble condition, was affecting him much more severely than would be expected under ordinary conditions.

Before leaving the house the patient requested me to examine an enlargement which he had accidentally discovered in the upper part of the right iliac region, about one and a half inches to the right of median line, and an equal distance below the level of the anterior superior spine.

Its position being, I think, far back in the pelvis, palpation revealed a mass of oval outline, about 3½ by 4½ inches in diameter, of rather firm consistency, inelastic, not presenting any well defined doughy sensation, only slightly sensitive to pressure, and not painful. Owing to its deep seated location, and since it was still more obscured by being covered by and lying behind the intestines, its character and origin were so concealed as to render diagnosis both difficult and uncertain. Yet I had the impression that it was probably produced by fæcal impaction.

I was called again August 12, 1894, when a perceptible increase in size of mass was noticed, the tumor being at this time nearly an inch larger in diameter, and the condition attended with alternate constipation and diarrhœa. The mass of fæcal matter was nearly uniformly kidney shaped and about the size of a lima bean. During the attacks of diarrhœa large quantities of a semi-liquid, gelatinous, almost transparent mucus were passed involuntarily from the bowels.

From this time the increase in the size of the mass was continuous; it extended over to the left side, and fluctuation could be perceived. This, in a great measure, cleared up the diagnosis, determining it to be a tumor more or less cystic in character. Not infrequently there would be periods of two or three days, or longer, when pain and soreness were well defined, causing loss of sleep, and demanding anodynes for relief. The very advanced age of the patient, and his great reluctance to submit to an operation, together with the little assurance of relief given by his medical attendant, induced him to defer surgical interference as long as his condition was consistent with even a moderate degree of comfort. Thus matters were permitted to drift along until December 24, 1895, when the tumor had increased much in size, and the distressing dyspnœa was so urgent that, as the patient expressed it, it was either to submit to an operation or choke to death.

An exploratory incision was now made, and a large mass covered with peritoneum, the sigmoid flexure, and part of the rectum found presenting at the wound. The mass was firmly fixed and could be felt extending into the pelvis and attached to the posterior wall. An aspirator was introduced and a thick gelatinous substance obtained. The exposed surface of the tumor to the extent of two inches was drawn to the opening, and the edges of the wound were firmly united to the surface of the tumor and stitched with silk, leaving a portion of the tumor exposed. At the end of five days the tumor was incised and seven pounds of the contents scooped out. At this time a uterine probe could be passed through the whole length into the cavity. The dyspnœa disappeared, and the patient rested better than for months. The action of the bowels became regular soon after. Later on about five pounds of the contents were evacuated. During three weeks following the operation the patient improved, until at the end of that time he was able to sit up and converse with his friends; but evidence of failure of the vital powers began to be apparent, gradually increasing until January 16th, when he died.

At the autopsy the wound was found in good condition, with the adhesions between the anterior abdominal wall and tumor sac perfect, and no evidence of inflammation in the peritoneal cavity. Lining the sac were numerous calcarous plates from degeneration, and the sac walls, one-half inch in thickness, were of dense fibrous tissue. The tumor was attached to the anterior middle portion of the sacrum, and had developed beneath the peritoneum, unfolding it and carrying above it the large and small intestines. It had begun as a fibroma from the sub-peritoneal connective tissue covering the sacrum, and had later undergone cystic and calcarous degeneration. By its pressure it had obstructed one of the ureters, until the latter was sacculated and one inch in diameter. Both kidneys were found cystic and less than one-half natural size. The pressure on the rectum, together with the stretching, had kept up the mucous colitis, which disappeared when the pressure was removed.

The case is of interest, first, because of the location of the tumor and its long history; and second, because of the operation done in two stages, thus relieving the symptoms and reducing the dangers of sepsis to a minimum; and it was the consensus of opinion of all who were conversant with the progress of the case, that had the patient not had his vitality so greatly lowered by advanced age, his chances of recovery would have been at least fairly good.

SIMPLE STOMATITIS TREATED WITH GLYCO-THYMOLINE.

By J. Cambridge Wharton, M. D.

Senior House Physician Metropolitan Hospital, Blackwell's Island, New York.

THE patient, a male, æt. twenty-nine years, was admitted to this hospital December 14, 1896, after a debauch of some two weeks.

On admission, his mouth and tongue were found to be covered with irregular, gray, dirty-looking ulcers; the tongue was much swollen, soft and flabby, showing the imprints of the teeth.

There was extreme salivation constant dribbling from the mouth, irritating the skin of the chin. The tongue showed many fissures, and one especially deep, extending from the base to the tip. The breath was very foul and offensive, there was pain on swallowing and a slight rise of temperature. Naturally, there was little desire for food, for lack of taste, and the bowels were very inactive.

There was no glandular involvement, and there seemed to be no complications in the case whatever, and no doubt the trouble was induced by the excessive and long continued use of alcohol.

The treatment consisted solely of glyco-thymoline (Kress), one part to four of water, a teaspoonful of the mixture being given every two hours. Locally the mouth was washed frequently with glyco-thymoline, diluted with two parts of water. The effect of this treatment was marked from the first dose, and in five days the patient was discharged from the hospital fully recovered. While this case seems like a very simple one, it is instructive from the fact that the recovery was so rapid, and that the remedy, so far as I know, is a new one in this field of practice.

Glyco-thymoline has been found of great service in catarrhal affections of the nose and throat, especially when used by the Bermingham douche.

PURULENT MYRINGITIS IN CONNECTION WITH PULMONARY TUBERCULOSIS.

By Geo. Cleary, M. D., Denver, Col.

THE profession in Colorado is intensely interested in anything pertaining to pulmonary diseases, since the State is one of the pre-eminently recognized Meccas for those unfortunates suffering from pulmonary tuberculosis. In consequence, therefore, the members of the medical profession here find home opportunities for study and observation of phases of the disease which are denied those in various other localities. The typical ear affection which I shall describe presently is found, according to my experience, to co-exist with pulmonary tuberculosis, in every case I may say, with scarcely an exception. Its appearance is so characteristic, to me at all events, that I am vain enough to fancy that I can tell at sight, without any previous history or other examination, that the patient is a victim of the disease.

I have time and again predicted lung trouble, when there were no outward physical signs of a general breaking down of the system, and without having been previously made aware of any lung complications, and have had those predictions verified afterwards, either by myself or others. In speaking of myringitis, you will necessarily have to bear in mind the close connection between it and otitis; but since this paper is meant to deal more particularly with myringitis, it does not attempt to enter into various pathological processes of the middle ear, during the further progress of the disease.

Purulent myringitis in connection with pulmonary disease has been noted from a comparatively early period by an occasional observer, evidently more because of the peculiar symptoms and obstinacy of the affection than the recognition of its gravity and importance. It is only in very recent years, in fact, since the discovery by Koch of the tubercle bacillus, that it has claimed any special attention, and then only by a comparatively few earnest workers. I wish to make a small contribution, gathered from my own personal experience, hoping it may interest some of you.

Let us, in the first place, examine the characteristic differences between this ear affection and the ordinary form of acute otitis media perforativa, occurring from colds, or in connection with the exanthematous diseases. In the latter we are made aware of the violence of the inflammation by the rise of temperature, pain referable to the ear and side of the head, at times of great intensity, with accompanying deafness and tinnitus. If we now watch the membrane we will notice changes taking place in it during the progress of the inflammatory process. There is gradual congestion, pervading the periphery of the drum head, and along the manubrium; this soon extends over the whole surface, increasing in its intensity until it looks purplish. Then comes the bulging forward towards the meatus from the constantly increasing accumulation of secretion from behind. Perforation next takes place, with ragged, thick edges, giving vent to a sanious muco-purulent secretion. Then follows the gradual abatement of all the symptoms, the comparatively rapid closing of the aperture in the drum head, and finally the more or less complete restoration of the parts to their normal condition.

In the special form of otitis which occurs in connection with tubercular lung trouble, and which I believe I am justified in designating as of tubercular origin, a very different set of phenomena is presented, which at once arrests our attention and compels us to recognize the fact that we are dealing with a malady altogether distinct from the form above described. In the tubercular form, as I shall call it, there is an absence of all active inflammation; no premonitory symptoms of ear disease, except, perhaps, a slight feeling of fullness, and a corresponding impairment of hearing immediately before the discharge. Otherwise, the first evidence the patient has of

ear disease is a perforation whistle on blowing the nose, and the staining of the handkerchief on applying it to the ear. Pain, which is so prominent a symptom in the other form, is absent in this—one of its dominant features. Again, on inspection we find instead of a red, bulging, and thickened membrana tympani, a pale, flattened surface, except in those rare cases called cheesy inflammations of the middle ear, when we have a cheesy accumulation behind it. The next characteristic sign which engages our attention is the peculiar form and appearance of the perforation in the drum head. In the ordinary kind we have the thick, red, ragged, protruding lips of the rupture. In the one under consideration we have what I call the "punched hole" perforation, with clean-cut edges, thin, pale, and flattened, usually situated close to the manubrium, either in front of or behind it—more frequently the latter. The secretion or discharge also differs, being thin from its first appearance. To recapitulate: No pain preceding the discharge; a thin, tightly drawn, flattened membrane; a "punched-hole" perforation, either in front of or behind the manubrium, but in contiguity with it, more rarely situated in Schrapnell's membrane, but not quite so defined in character when in the latter location.

As destruction of tissue advances with the onward march of the disease, lines and characteristics change, but not sufficiently to obliterate its diagnostic and prognostic features. There will always be an uncanny and peculiarly unhealthy appearance denoting its malignancy. The soft parts under observation look macerated, and melt away as new tissue is being involved, like ice under the sun's rays. I have had the opportunity of watching these cases from the commencement. I have seen the perforation behind the handle of the hammer, not larger than a pin head, gradually enlarge in a circular manner; then the posterior edge of the manubrium would become exposed by erosion, and the same series of changes would next take place in front of the bone, finally eating it through, making one large opening, and so continuing in its destructive course. The mucous membrane of the tympanic cavity undergoes the same destructive changes. Politzer says that he has seen the walls of the tympanum, and the mastoid process in tuberculous subjects, as destitute of mucous membrane as a macerated bone.

These cases of myringitis seldom or never heal over. They are, as I previously stated, too often the immediate forerunners of final dissolution. Occasionally, but very seldom, they are stayed in their progress, but not by the effects of any local applications. In fact, topical applications of any potency irritate rather than soothe or heal, and seem to hasten the process of destruction.

According to a German statistician who has given special attention to the subject of longevity (*Medical Review*), the oldest man in the world is Bruno Cotrim, a negro born in Africa, and now a resident in Rio Janeiro. Next to him probably comes a retired Moscow cabman, named Kustrim, who is in his 140th year. The statistician says the oldest woman in the world is 130 years old, but neglects to give her name or address.

RACIAL ANATOMICAL PECULIARITIES.

At a recent meeting of the Anthropological Society of Washington, which is reported in the *American Anthropologist*, Dr. D. K. Shute read a paper on this subject (New York *Medical Journal*), in which he said that all students of ethnology recognized readily such obtrusive structural peculiarities as the color of the skin, the character of hair and the physiognomy. They also knew, in connection with the latter factor, how craniology had been invoked to discriminate between races.

But cranial as well as other measurements of the body showed considerable variation in the relative proportions of parts within the same race, a fact, says the author, which had led many to think that ethnologists had made too much of such measurements—had often given them undeserved prominence and applied them too frequently, to the exclusion of other elements.

Cranial capacity, for instance, was not indicative of race in individuals; it was only of value as an induction based on an examination of large numbers of skulls, and even here it was only important when taken in connection with other features. To say that a skull belonged to a high race instead of a low one, for instance, because it was megacephalic, was entirely misleading, but to say that a high race would contain a larger percentage of megacephalic skulls than a low one was not only true, but helpful to the ethnologist.

As bearing in an interesting and instructive manner, said Dr. Shute, upon the question of racial anatomical peculiarities, a study of the present evolution of man was important. Man apparently was undergoing at present a comparatively rapid development; almost as rapid, it had been observed, as was that of the horse from eocene times.

In this evolution of the race or sub-species of man sexual selection had been a potent factor in producing the more glaring anatomical peculiarities, such as the color of the skin, the amount and character of the hair and its distribution over the body, but also use and disuse accounted for many of the less obtrusive ones.

This latter statement brought us, he thought, to questions at issue between Weissmann and Spencer as to the transmission of acquired characters.

Some of the regions in which evolution might be said to be now going on were as follows: The skull, in which the face was decreasing in size, with early closure of the sutures, while the cranium was increasing in size, with late closure of sutures.

The canine teeth had comparatively recently been reduced in size, and the third molar teeth were tending to disappear.

The assumption of the upright posture had led and was still leading to an interesting series of correlated changes in the thorax, the pelvis, and the lumbar vertebræ.

This posture had shifted the weight of the abdominal viscera from the thorax to the pelvis, and we found in consonance with this fact the eighth, ninth and tenth ribs were reduced in size, the twelfth rib tended to disappear, and also the last lumbar vertebra tended to fuse with the sacrum, thus tilting the pelvis up still further.

In reference to this subject, said the author, Prof. Osborn had suggested that it would be interesting to note the condition of the ribs in some of the large-bellied tribes of the Africans. Rosenberg predicted that the man of the remote future would probably have but twenty-three free vertebræ.

The curvatures of the spinal column were tending to increase.

The pelvis in the female, in correlation with the augmenting cranium, was increasing in size and thus diverging more and more from the male type.

The bones of the big toe, through use, were tending to increase in size, while those of the little toe, through disuse, were tending to decrease, with reduction of the number of phalanges by ankylosis.

According to the Supreme Court of Illinois, no physician is compelled to report contagious disease, or do any other public duty, without special compensation.

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THE TOXIC BASIS OF DISEASE.

IN the process of evolution, so distinctly marked within the past decade, human thought is running more and more in the line of absolute fact, brought out by the most painstaking investigation. The days of poetry and romance are fast being relegated to that past, where the images formed by the imagination, containing perhaps a modicum of truth, formed not only the basis of the epic and of the romance, but were blended also with the logic of the dogmas of the theologian and the so-called scientists.

The laboratories of the biologist and psychologist are now the centers of that profound and far-reaching thought which in tracing the evolution of life from spiritual forces, blending the atom and the molecule into the various forms of vegetable and animal life, from the lowest to the highest organisms, is unfolding truths more startling than the wildest dreams of the poet or the imagination of fiction, and more full of beauty and harmony than the blended colors of the artist upon the canvas in his most inspired moments.

This line of modern thought holds in its grasp and infuses new life, strength and harmony into every profession and into every industry. The evolution, as traced by the biologist and psychologist, is so gradual, one step following the other so logically and so conclusively, that the whole seems to be a matter of growth and progress not too fast for the human mind to grasp and appropriate, and yet in looking back for over twenty years we are startled at the change and the manner of reaching conclusions. This is especially apparent in our own profession, the work of the biologist, the psychologist, the chemist and pharmaceutist, each in his own individual line supplementing the work of the other and aiding in the general results.

The study of micro-organisms, the various forms of bacteria, of ptomaines and leucomaines, and the effect of their poison upon the nervous system, is bringing us nearer and nearer the cause of disease, pointing out the preventive, and to the line of investigation which in the mental, mineral and vegetable world will aid in harmonizing the relations of every part of the system.

We have been, year by year, leading up to the conclusion that a large majority of diseases are primarially neuroses, and the results of investigation in the laboratory establishes the fact that most of the processes of disease are due to toxic substances, produced by molecular changes of dead or living atoms, in one form or another, acting primarily upon the nervous system, and affecting directly, according to their character, different organs and tissues of the body. In this way may we not account not only for most of the various forms of acute and chronic diseases, but especially that class whose effect is principally shown in deranged mental action, by the change in the nerve cells produced by the action of toxic substances? These toxic factors may, and sometimes do, act slowly, insiduously and persistently, covering a longer or shorter period, in accordance to their strength and presence. As in malaria the different stages of the development of the plasmodia, the malarial bacillus, determines the intensity and the various stages and types of the disease, so in insanity, the acute, the sub-acute and the chronic, with the various forms of hallucinations, may be determined by the condition of the micro-organisms, the stage of development and the virulence of the toxic poison. In sunstroke there is evidently a development of auto-toxic poison, in some cases so virulent that acting upon the ganglion cells, which control the heart and the vaso-motor system, it produces a suspension of the vital function as rapid as the most virulent snake poison, terminating life before there is a chance to bring on reaction.

May we not also conclude that epilepsy, which has always been the *bete noir* of our profession, is the result of a toxic condition of the system rather than to any pathological change in the brain and spinal chord? The convulsions of children during teething, in indigestion, or announcing the onset of an infectious disease, are an example of the effect of a toxic substance acting upon a susceptible nervous system. May we not gather from the effect of auto-toxic substances in the convulsions of epilepsy, in the hallucinations of

insanity, with its terrible paroxysms and alternations of wildness and melancholy, a treatment which may possibly be different from that in popular practice? In all cases where the digestion and the assimilation are cared for, the excreting organs kept as much as possible in good condition, the mind trained to exert its proper functions on the right side and the vital force increased to enable it to throw off the poison, fewer drugs will be needed to prevent the development of toxic poisons in the human system and to destroy them when formed.

DISPENSARY ABUSES.

THE inquiry of the County Medical Society has developed some important facts bearing upon this much discussed subject. There are at present in this city twenty-six hospitals, excepting the Department of Charities, and 114 dispensaries, and 39 per cent. of the population take advantage of this service!

The *Mail and Express* has taken up the subject, and we may expect an airing from the lay standpoint, as it says: "Discoveries of unique, almost grotesque, interest have been unearthed by the committee. The President of one of the largest municipal railroad corporations has been identified as a regular attendant at one of the dispensaries. A free patient at an uptown hospital is the owner of three houses on Third avenue. Other patients have turned out to be people of excellent financial standing in towns and cities remote from New York.

"They come from out-of-town places accompanied by their local physician or by a relative, put up at a high-priced hotel, and then seek a clinic for medical advice," said Dr. Gray, speaking of the matter to-day. "When told in one dispensary that they are not suitable subjects for charity, they set off in hot indignation to another. Patients are often sent to a clinic with a letter from their attending physician asking for diagnosis, prognosis, and treatment, inquiry eliciting that their intention is to go back to this physician's office and pay him for treatment. In reality, patients constantly go to dispensaries simply to find out the best physician for their particular disease.

"The reason for the enormous increase in our charity work is plain to any one who has noticed the development of our hospitals and dispensaries of late years. The public must be appealed to for money; the larger the number of patients the more need shown for money. No effective general regulations are strongly enforced, and, for this reason, the growth of the abuse has been such that all methods of restriction have proved utterly ineffectual.

"It will not be denied that a certain, even a liberal, amount of charity work is a necessity to the medical profession, distinguishing it in this respect from all others. But the glaringly indiscriminate charity that now exists is not necessary to the purpose. There are abundant poor and deserving patients in attendance at the clinics, enough to provide ample material and examples for our practising physicians. I have a thorough appreciation of the needs of those upon whom we should bestow charity, but my sympathy is broad enough to include the medical as well as the lay poor.

"A number of young physicians in this town have built up prosperous practices from the clinics where they have treated so-called charity patients. A woman makes application for medical attendance at a clinic. Although quietly dressed, there is that about her that indicates a certain amount of prosperity. There are plenty of people waiting to be treated. The young physician says to her in an aside: 'You need more individual attention than I can give you to-day You had better let me see you at your home; my charges are light, in proportion to the amount of my patient's income.' The woman gives him permission to pay her a professional visit, and he discovers that she is in circumstances good enough to pay moderate charges. This is underhand work on the part of the hospital doctor; possibly he is ashamed of it at the time, but he is in a measure forced to it, because the legitimate practice that should be his and his colleagues' is being diverted into the dispensaries." * * *

London manages these things differently. It is difficult to get public charity in London unless you can prove that you are really in need. To get into a hospital, even at a reduced expense. the patient has to have a letter from a clergyman or a reliable physician, or one of the governors. His or her private affairs are thoroughly ventilated, and the enforced publicity deters many who might otherwise be tempted to take advantage of the opportunity.

Physicians who speak of a possible remedy for the abuse of the aid afforded, advocate dividing the city into districts and prohibit persons from attending any dispensaries but the one in their own district. They also propose the restricting of out-of-town patients, and advise that the hospitals and clinics be distributed more generally among the poorer sections of the city.

The writer proposed a plan several years ago

which was more simple and practical than any that has been suggested.

It would bring the whole matter into the hands of the Commissioners of Charities, where it belongs, and would make each block in the thickly populated part of the city a district in charge of physicians within its own boundary. This would admit of the closest scrutiny of each case, would save an immense amount of time to poor people, which means a great deal, and need not be arduous for any practitioner, especially if he has an assistant. The medicines would be supplied by the nearest druggist at a nominal sum, which would be met by the Department of Charities.

The physicians themselves are to blame for very much of the dispensary abuse, and if it is to be abolished they must reform their own actions.

It cannot be expected that an attendant at one of these popular clinics is going to work very hard to break up his life-work; No, the initiative must be taken by those who are not connected with any such work.

Call a meeting of physicians in the city who are not doing charity work, submit our plan to them, and a way will soon be found to solve this whole problem. Who will do it?

We make no suggestion to interfere with the greater specialties in the profession, and patients sent to them by the district physicians could be depended upon as charity cases.

SOUND THEOLOGY.

THE Bishop of Norwich, England, in a recent sermon said:

"Nor can I, nor shall I, be silent about the wrongs to which scores of medical men are subject. I refer to the startling contrast there is between the inexorable demands which society makes on medical men, and the elasticity of the social conscience with respect to their remuneration. I have known cases where they are summoned at all hours and all seasons of the year Their bills are presented with timidity, if no anxiety, and they are sometimes received with amazement, sometimes with indignation, and sometimes relegated to oblivion. Nor are cases unknown where the righteous demand for work done is met by calling in another practitioner; he, in turn, to suffer as his brother did before him. I cannot permit myself to imagine that I address any such wrongdoer here to-day, but if I do, then, in my Master's name, I entreat you to remember that the medical men of this nation are the highest type of their clsss in the world; they are entrusted with the secrets of domestic life; they have all our liabilities of their order; they frequently die as martyrs to science, to suffering, to sympathy, to destitution. Believing this, my plea is that every unpaid medical bill be discharged generously, gratefully, cheerfully, and that whatever account must be deferred in payment, the last to be deferred is the account of him who is the human agent who has brought us into the world, enables us to continue our work in life, and many a time lays down his own in endeavoring to baffle death."

BEQUESTS TO SCIENCE.

THE enormous fortune of Alfred Nobel, the inventor of dynamite, amounting to $10,000,000, has been left to establish five annual prizes, three of them for scientific discovery.

The first two prizes, those of physics and chemistry, are to be awarded by the Academy of Sciences of Sweden; the third, that of physiological or medical works, by the Carolus Institute of Stockholm; the literary prize by the Swedish Academy and to him who has done the most toward the establishment of universal peace, by a committee from Norway or Stockholm. The amount of each prize will be about $60,000, and as they are open to all nations, we shall naturally expect some splendid results in the field of literature and science, not the least of which will be bringing directly before minds of advanced culture, fully trained to literary and scientific work, those new thoughts and great discoveries which might otherwise languish for want of recognition and a proper introduction to the public.

NEW SYSTEM FOR DETERMINING INTELLECTUALITY.

THE arguments advanced by man in favor of his intellectual superiority to woman have, so far, been found to rest on erroneous premises, and woman has succeeded in demonstrating her equality to man, at least as regards the manifestations of intelligence. Thus, assuming the brain mass as an indicator of intelligence, it was held that because man's brain being heavier than woman's, his intelligence was also greater than her's. Investigations have shown, however, that the relative capacity of the skull could be considered merely as an anatomical and not as a physiological characteristic, and unless the quality of the brain could be represented at the same time as the quantity, the brain mass could not be assumed as an indication of the intellectual position of the sexes, any more

than of individuals. The noted brain weights are those of Cuvier, 64.5 ounces; Abercrombie, 63 ounces; Byron, 63.5 ounces; Spurzheim, 55.6 ounces; Dirichlet, 53.6 ounces; Webster, 53.5 ounces. But these, taken with measurements by Dr. Peacock of a sailor's, a printer's and a tailor's brain, which gave from 61 to 62.75 ounces, and the measurement by Thurman of the brain of an ignorant butcher (62 ounces), show how unreliable brain mass is, as an indication of brain manifestation. Again, the brain of an ant is minute, but its manifestations of intelligence are remarkable; the whale and the elephant possess larger brains than men, yet, compared to men, they are "not in it" when it comes to the kind of intelligence.

It was then announced that the convolutions in in the brain made up for its deficiencies in size and volume, but Prof. Darkchewitch, an eminent Russian scientist, has shown if this were true, the sheep, which is supposed to be one of the most stupid of animals, would stand at the head of the scale of animal intelligence. Its brain has convolutions "to burn," while the brain of the beaver, one of the most intelligent of animals, is smooth and devoid of convolutions. The Russian scientist thinks he has found that the true determining factor in the problem of human and animal intelligence is the ratio which exists between the weight of the brain and the spinal marrow. Applying this system to various animals, he has drawn up a scale of intelligence, which he thinks shows with mathematical precision, the difference between the intellectual capacity of man and various animals. As between man and woman the difference in the scale is so small as to be hardly appreciable, that in man being 49.4, and in woman 49.3. However interesting the professor's theory may be and the reasoning which leads up to it, we are hardly prepared to accept his conclusion as a scientific fact.

VICTORIA'S JUBILEE.

THE near approach of the sixtieth year of the reign of Queen Victoria, the longest reign in the records of English history, is attracting much attention, not only throughout her dominions, "upon which the sun never sets," but the civilized world. The Prince of Wales has issued a communication, in which he projects a fund, to be called the "Prince of Wales Hospital Fund for London," to commemorate the Queen's coming jubilee. The object is to secure about 150,000 pounds annually by subscriptions of a shilling and upward, to meet the needs of the hospitals, which are not met by existing funds. It has been a matter of regret that the incomes of some of the oldest and best hospitals within the past few years have fallen off to such an extent as to render necessary the closing of some of the wards. The new fund will enable them to continue their work to meet the demands of the public. A council will be appointed, of which the Prince of Wales will be Chairman, and Baron Rothschild Treasurer.

LEPROSY.

FATHER CONRADY, the successor of Father Damien, in charge of the leper colony in Hawaii, says that he believes leprosy can only be communicated by inoculation, and that the cleanly, and those taking proper care of their health, avoiding any abrasions on the skin, need never contract the disease. Father Damien had an abrasion on his hand, and in binding up a boy's wounds he was inoculated. There are at present 1,200 patients in the colony.

VENTILATION IN THE CAPITOL.

THE science of ventilation is certainly not at fault for any hot headed legislation which may be formulated in our House of Representative and Senate at Washington. Science seems to have done its utmost to keep the air in our legislative halls fresh and pure, and the heads of our law givers cool and in good thinking condition. Fans under the floor and in the roof are driven by electric motor-power, drawing the pure air, which is warmed by passing between steam pipes, from a tower located on the northwest section of the capitol grounds. In addition to the regular supply to the house, perforations at the foot of each desk furnish an additional supply to each member which can be cut off when not wanted.

ULTIMATE SANITATION.

PRESIDENT CLEVELAND, in his admirable address before the Academy of Medicine, in the following beautiful extract struck the same line of thought embodied in the leading editorial in our February issue on the prevention of typhoid fever:

"You have penetrated the places where the germs of disease are hidden. We are quite certain that you should be required to destroy the origin of disease and ultimately to usher in the day when the only escape from the world will be through a passage-way marked 'Old Age Exit.' * * *

"In the meantime, those of us who are conservative must be allowed to hope that further investigation will continue to point the way to the prevention of disease. For this investigation we must still rely upon the efforts of those who have already do so much in that direction, encouraged and stimulated by such effective organizations as the Academy of Medicine. * * *

"In some instances, however, investigation has performed its part, and only effective action in other quarters is necessary to supply needed remedies. In such cases, of course, you were absolved from all responsibility in your professional character by exhibiting dangers and warning against them. Thus certain diseases which you deem contagious yet remain imperfectly isolated. You have demonstrated the peril to health of unwholesome water and noxious surroundings, and yet much remains to be done by way of protecting our people against these dangers."

We stated at that time that after our letter had appeared in the *Herald*, which was embodied in our editorial, a lady waited upon us with a plan which covered every suggestion in every particular. By this plan, with an electric device, acting automatically, connected with an electric self-winding clock, waste pipes can be flushed at regular intervals during the absence of the family, and all dangers from germ poisoning obviated. We learn that the details of this plan are so thoroughly satisfactory to the leading sanitarians to whom it has been presented, that the ingenious author has with their full approval applied for and obtained a United States patent.

IT is one of the fallacies of Tomtraso and the criminal anthropologists that the female criminal is a bad mother. A visit to the babies' ward of a large prison will soon dispel this idea. The baby is a humanizing influence in gaol; it is the supreme touch of nature that proves human kinship. The maternal instinct is aroused in all the prisoners, and the advent of the little child has a softening influence benign and beautiful.

THE French Government is taking steps to increase the now rapidly diminishing birth-rate in that country. The statistics recently published by Dr. J. S. Billings, librarian of the Astor Library, the very best authority on vital statistics, is a matter of surprise to every one. From these statistics we learn that the birth-rate in this country is also rapidly decreasing. In 1880, the birth-rate per 1,000 in the United States was 30.95, while in 1890 it was only 26.68, a decrease of 4.27 per 1,000 of population in ten years. The decrease was greatest in Massachusetts, 11.67, next in Virginia, 7.76, and even in New York it was 1.76. It is a question if this decrease in the birth-rate is an evil after all. Horticulturists do not think that a tree loaded with fruit gives as fine results as when the culture and the strength of the tree is centered in a smaller amount. In the latter, the fruit is larger, richer in flavor, and more valuable than in the former. So long as the nation is increasing year by year in population, we need have no fear of a near extinction, even if the families are smaller than a half century ago. Parents who bring into the world more children than they can properly care for, are by no means to be commended. Quality is much more to be commended than quantity.

Petroleum is extensively used in Russia as a local application for the cure of gout, rheumatism, eczema, and other chronic skin diseases. The City of Elizabethpol conducts an establishment called "Naphthalan," in the style of a watering-place, where 500 to 600 patients are annually treated. Gratifying results are claimed. A Pennsylvania paper suggests to enterprising oil centers in this country that they develop their own resources by establishing similar "oil resorts."

Ancient Prejudices Against Water Drinking.—A contributor to the *Hospital* says: "It needed a very bold man to resist the medical testimony of three centuries ago against water drinking. Few writers can be found to say a good word for it. One or two only are concerned to maintain that 'when begun in early life, it may be pretty freely drunk with impunity,' and they quote the curious instance given by Sir Thomas Elyot in his 'Castle of Health,' 1541, of the Cornish men, 'many of the poorest sort, which never, or very seldom, drink any other drink, be notwithstanding strong of body, and like and live well until they be of great age.' Thomas Cogan, the medical schoolmaster of Manchester fame, confessed in his 'Haven of Health,' 1589, designed for the use of students, that he knew some who drink cold water at night or fasting in the morning without hurt; and Dr. James Hart, writing about fifty years later, could even claim among his acquaintances 'some honorable and worshipful ladies who drink little other drink, and yet enjoy more perfect health than most of them that drink of the strongest.' The phenomenon was undeniable, but the natural inference was none the less to be resisted. Sir Thomas Elyot himself is very certain, in spite of the Cornish men, that 'there be in water causes of divers diseases as of swelling of the spleen and liver.' He complains oddly also that 'it flitteth and swimmeth,' and concludes that 'to young men, and them that be of hot complexion, it does less harm, and sometimes it profiteth, but to them that are feeble, old and melancholy, it is not convenient.' 'Water is not wholesome cool by itself for an Englishman' was the verdict of Andrew Borde—monk, physician, bishop, ambassador and writer on sanitation—as the result of a life's experience. And to note again the Englishman's doctor:

> Both water and small beer we make no question,
> Are enemies to health and good digestion.

But the most formal indictment against water is that of Venner, who, writing in 1622, ponderously pronounces to dwellers in cold countries it doth very greatly deject their appetites, destroy the natural heat and overthrow the strength of the stomach, and consequently confounding the concoction is the cause of crudities, fluctuations, and windiness in the body."

BIBLIOGRAPHICAL.

THE selections in *Littell's Living Age* from foreign magazines, and presented weekly to the American reader at only $6.00 a year, are made with excellent judgment, and keep us in touch with the best literature of the world.

THE March *Century* is an inauguration number, devoted especially to articles on life in the White House and at the Capital, illustrated with a great number of interesting pictures, including portraits of the outgoing and incoming Presidents. The 'Campaigning with Grant," is as usual, full of interest.

ARTIFICIAL ANÆSTHESIA. A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By Lawrence Turnbull, M.D., Ph.G., Aural Surgeon to the Jefferson Medical College Hospital, Philadelphia; Late Honorary President to Otological Subsection of the British Medical Association, and to the Section of Laryngology and Otology of the American Medical Association. Fourth edition, revised and enlarged, with illustrations. Philadelphia: P. Blakiston, Son & Co., 1896; pp. 550; octavo.

That a fourth edition of such a work should be called for in so short a time, shows that it has met a positive demand.

The present edition is brought fully to date in a most careful and fascinating manner, and covers the subject in all details, including the collaterals. No person should attempt the use of anæsthetics without first making a study of a book of this class, and as we know of none more exhaustive than the one under review, we heartily commend this to our readers.

PRINCIPLES OR GUIDES FOR A BETTER SELECTION OR CLASSIFICATION OF CONSUMPTIVES AMENABLE TO HIGH ALTITUDE TREATMENT AND TO THE SELECTION OF PATIENTS WHO MAY BE MORE SUCCESSFULLY TREATED IN THE ENVIRONMENT TO WHICH THEY WERE ACCUSTOMED PREVIOUS TO THEIR ILLNESS. By A. Edgar Tussey, M.D., Adjunct Professor of Diseases of the Chest in the Philadelphia Polyclinic and School for Graduates in Medicine, and Consulting Physician to the Central Branch of the Y. M. C. A. Gymnasium. Philadelphia: P. Blakiston, Son & Co., 1896; pp. 144; octavo.

The majority of practitioners have not in the past exercised much intelligence in selecting locations for consumptives, largely no doubt because of lack of knowledge of the subject. This little book will enable one to individualize these cases in respect to many influences beside altitudes, and we are glad to welcome such monographs as this, as they lead to a better understanding of a difficult problem.

TWENTIETH CENTURY PRACTICE. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America; edited by Thomas L. Stedman, M. D. In twenty volumes. Volume X., Diseases of the Nervous System. New York: William Wood & Co.

No department of medicine during the past two decades has made as rapid advances in patnology, diagnosis and treatment, as the diseases of the nervous system. In the preparation of this volume the authors have had to rely in a great measures upon the labors of very recent writers, as old theories have been to a certain extent swept away by modern investigation. As an illustration of this fact Dr. Collins cites disseminated sclerosis. "Formerly it was thought that this disease was a degenerate affection of the central nervous system, occurring in adult life, and without attributable cause. To-day it is moderately well established that disseminated sclerosis is a disease of very early life, and that the islets of degeneration of the nervous system, which constitute its anatomical basis, are an expression of reaction to some hæmic irritant, such as a toxine, which follows after the acute infectious diseases, like measles, scarlet fever, enteric fever, and possibly malaria. In the beginning such changes may be acute, or they may be very slow; but in the great majority of cases there is evidence to show that the degenerative process in the nerve tissue is mediated directly through the blood vessels, and that the process is degenerative from the start." We consider this volume one of the most important contributions to our knowledge, in the grouping together of recently discovered facts and the new light it throws upon diagnosis and treatment of the brain and nervous system.

A SYSTEM OF PRACTICAL MEDICINE. By American Authors. Edited by Alfred Lee Loomis, M. D., late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M. D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black. Vol. I. Infectious Diseases. Just ready. Vol. II. Diseases of the Respiratory and Circulatory Systems, and of the Blood and Kidneys. In press. Vol. III. Diseases of the Digestive System, of the Liver, Spleen, Pancreas and other Glands; Gout, Rheumatism, Diabetes and other Constitutional Diseases. In active preparation. Vol. IV. Diseases of the Nervous System and of the Muscles; Diseases of Doubtful Origin, Isolation, Addison's Disase, etc. In active preparation. Per volume, cloth, $5; leather, $6; half morocco, $7. Philadelphia and New York: Lea Brothers & Co., Publishers.

The fruitful investigation of the cause of disease, the increasing definiteness of modern medicine in its practical applications, renders obvious the necessity for constant revision of our works in every department of practice. In no department is this want more clearly demonstrated than in the field of general and special medicine, and it was to meet this demand that the late Dr. Loomis and his coadjutors undertook the task, the first volume of which lies before us. The subjects have been treated by authors selected according to high repute in their special branch, consequently the work must be accepted as representative, and no doubt will do credit to our country in the world of medicine. The text is thoroughly practical, historical and purely controversial matters having been omitted. Each subject is complete in itself, and the greater specialties outside the domain of general medicine have been omitted also.

An attempt has been made to present a succinct and complete account of medical practice in its latest aspects and to make each article a clinical monograph, from the cause and nature of a disease, to its diagnosis, prognosis and treatment. Special effort has been made to make the therapeutical portions precise and helpful, and formulæ are given as called for. Diagrams, charts and tables, as well as illustrations and colored plates, mostly original, have been used when required to elucidate the text. The arrangement with sub-headings and the copious index, will facilitate the use of the book.

The junior editor pays just tribute to the late Dr. Loomis in the preface, and secures to his memory the part performed by his lamented friend.

The physical part of the work is all that can be desired.

The Congress of Sanitary Institutes which has been in session at Newcastle, England, has strongly indorsed bicycling as being the means of banishing a vast number of the derangements of women, and expressed the conviction that the average standard of the health of women bicyclists has undergone an appreciable elevation.

CORRESPONDENCE.

THE BRACELIN REMEDY FOR DIPHTHERIA.*

[After all the talk in the newspapers on the subject, and elsewhere, we are sure our readers will gladly know that Dr. Bracelin is still in the ranks of the profession, and repudiates the term "secret" as applied to his treatment. —ED.]

CHICAGO, ILL., June 29, 1896.

To the Editor:

Diphtheria, one of the most common and the most fatal of all acute infectious diseases from which the human family suffers, has been the *bete noire* of the medical profession.

In January, 1893, I discovered a remedy which appears to meet all the the requirements of ideal remedy. I have been experimenting with, testing clinically and improving on the original idea, until now I believe it is as near a specific for diphtheria as it is possible for a remedy to be for any disease. Since that time I have treated a large number of diphtheria cases in all stages of the disease and have only lost about 1 per cent, and I believe I have verified my theory that, if chlorine gas, corrected, should prove to be a safe bactericide for diphtheria, it would also be an effective remedy for all diseases of the respiratory organs of a microbic nature. This theory has been fully confirmed by the experience of many physicians besides myself who have used chlorine gas as prepared by me. It is too much to expect that such a small death rate can always be maintained, but I believe that by the use of this remedy the death rate will be less than 5 per cent. Not one who has used it as a prophylactic when exposed to the disease has been attacked by diphtheria. This is the best evidence of its efficiency as a prophylactic. As it is used by inhalation, it not only acts upon the diseased tissue locally, but being a vapor the remedial agent enters the lungs, passes into the circulation with the oxygen, and materially aids Nature in destroying the systemic poison. It is simple, easy to use, and absolutely safe; there is no danger of any harmful result following its use, or evil being caused by it. The remedy has been successfully used in a number of diseases of the throat and lungs, pneumonia, hay fever, asthma, laryngitis, common colds, bronchitis, whooping-cough, catarrh, consumption, etc. All cases of consumption in the first or second stages, where it has been used, have recovered and are now well. Consumptive cases require, in addition to the inhalations, appropriate constitutional and supportive treatment on the usual lines. It has failed to cure in the last stages of the disease, but affords great relief to the sufferer. I have reason to believe that if used on the first appearance of any symptoms of consumption that comparatively few will die of this much dreaded disease.

Pure drugs and careful manipulation in the process of manufacture are necessary in order to attain an efficient remedy. If made of poor materials, improperly combined, the remedy will prove a failure; but properly made it will prove to be all I claim for it.

The remedy consists essentially of chlorine, deprived of its suffocating, irritating qualities by an emollient corrective. The value of the "corrective" is not so much due to the agents used as to the process of manufacture in making the combination. Properly made the results will be satisfactory; if improperly combined the results will be disappointing. This is the result of my repeated trials and clinical experiments, carried on during a period of over three years. Two liquids are used, which are for convenience named "Bracelin Chlorine Bactericide, No. 1" and "No 2." "B. C. B. No. 1" is set free by the corrected chlorine in "B. C. B. No. 2." "B. C. B. No. 2" is added to "B. C. B. No. 1" in the proportion of one to five parts, slightly warmed and the vapor inhaled as directed. Some diseases, such as diphtheria and pneumonia, require its use once each hour, others but four or five times a day. I am now prepared to give my formula to the profession for trial in the treatment of diphtheria and throat and lung diseases, viz.:

FORMULA OF BRACELIN'S CHLORINE BACTERICIDE.

Solution No. 1.

Solution zinc chloride	20 parts.
Solution arsenic chloride	30 parts.
Hydrochloric acid	1 part.
Water	49 parts.

Solution No. 2.

Solution chlorinated soda, standardized to 2.6 per cent. available.

Chlorine	70 parts.
Corrective	30 parts.

NOTE. The corrective consists of menthol, camphor, eucalyptol and salicylate of methyl dissolved in alcohol and water. It will, I think, require no special argument to convince the profession that so chemically unstable a compound can only be prepared satisfactorily by careful and competent hands, and as already stated, I shall hereafter personally supervise its manufacture for the use of physicians. P. M. BRACELIN, M. D.

* From the *Journal of the American Medical Association*, July 4, 1896.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

A New Theory of Cicatrization and the Role of the Anterior Epithelium of the Cornea in the Cure of Wounds of that Membrane.—M. Rauvier said that in the phenomena of the reunion of wounds it is not necessary that cellular multiplication should intervene. The hypertrophy, extension and displacement of pre-existing cells are sufficient to assure the formation of the cicatrix. In order to demonstrate this, the eminent histologist addressed himself to the cornea. He made sections, more or less deep, upon the cornea of the living rabbit, and destroyed it sooner or later after the lesion. Immediate examination after the lesion showed the section of the epithelium to be clear and smooth, with no debris of importance. But when examined from four to six hours after the incision epithelial budding or bourgeoning from the surface of the section was seen to advance toward the bottom of the wound, and as the epithelial cells came in contact with the section of the corneal lamina, and touched each other, they became consolidated and fixed.

Radioscopic Application in the Diagnosis of Thoracic Diseases.—M. Bouchard has observed a perfect concordance between the facts furnished by percussion and those by radioscopy, the shadow thrown upon the phosphorescent surface marking in somber tints the regions in which there was consolidation. In this way he has, by means of the Röntgen rays, been able to diagnose a tubercular infiltration of the whole left lung, an ectopia of the heart, hypertrophy of the same, and aneurism of the aortic arch. In diseases of the abdomen the results obtained have been less satisfactory.

Employment of the Radioscope in Medicine.—M. Potain presented an atlas of photographs taken of gouty subjects by means of Röntgen rays. Upon the osseous extremities white spots were observed, and clear spaces indicating greater transparency of the parts, the same transparency being seen on the more projecting osseous surfaces. This was supposed to be due to the substitution of the urate of soda for the phosphate of lime, which idea was confirmed by experimentation, the urate of soda being very transparent relatively to the phosphate of lime. On placing two bottles side by side, one filled with the phosphate of lime, the other with the urate of soda, M. Potain observed that the latter was eight times as transparent as the former. Thus radioscopy is a means of differential diagnosis of gout and

chronic rheumatism. In rheumatism, no white spots are seen in the osseous extremities and no transparence in the portions of the hypertrophied bones. Thanks to this method, M. Potain has demonstrated that the disease of Eberden is of a gouty nature, as it presents the osseous alterations of gout.

Polysalpinx.—M. Pean presented a design of an enormous fibromatous uterus removed by abdominal hysterectomy, which had two well formed and distinct tubes on the right side; there were only two ovaries. While polysalpinx is less rare than polyorchidia, it is none the less interesting.

Gastro Hysterotomy Followed by Total Hysterectomy in a Woman at Term.—M. Pinard: In a woman of thirty-two years, primipara, with an extremely contracted pelvis, laparatomy permitted the lifting of the uterus from the abdominal cavity, its incision, and the extraction of the child. The total ablation of the uterus by disengagement of the cervix by vaginal incision was practised by M. Segond. The infant cried lustily on emerging from the uterus. The substitution of this operation for embryotomy marks a great progress of cotemporary surgery.

Simulated Rabies in the Dog.—M. Menire said that for some time nervous affections have been very frequently observed in these animals, and many of them assume an appearance more or less rabiform. These "fausses rages," seeming rabies, should be marked, not only to save innocent lives, but to diminish the statistics of hydrophobia of dogs that are not rabid. The nervous attacks are due to different diseases of obscure nature, and are often taken for rabies, and it is not always necessary to kill them when they exhibit symptoms of frenzy with a desire to bite.

M. Weber: It has long been known that rabiform attacks may occur. The autopsies made by order of the Commissioners of Police, and by veterinary surgeons, and which are said to declare the existence of rabies, prove absolutely nothing. It is impossible to base any such diagnosis from the presence of foreign substances in the stomach, as they are often sufficient to cause symptoms analogous to those of rabies.

Treatment of Certain Rebellious Forms of Neuralgia by Intradural Section of the Posterior Roots.—M. Chipault presented a patient who had suffered for four years with excruciating neuralgia of the right upper extremity. He had tried all kinds of treatment, among them especially many operations upon the cubital nerve, with no effect. Morphine in incredible doses procured a respite for only a few moments. The patient was not affected by neuralgia of a single nerve, but of the eighth right posterior cervical, the pains occupying the whole cutaneous territory of this branch. In the absence of any rachidian or medullary lesion that could explain the radiculalgia, a new operation was practiced, viz., opening the vertebral column, and the section, within the dura mater, of the posterior root, which was made next the medulla, and afterwards at its exit from the dura mater. The patient, who had derived no relief whatever from all previous operations, waked up from the chloroform cured entirely, and with no subsequent functional alteration, extending over a period of two years and a half. It may be added that the intradural resection of the posterior roots, an application to man of the discovery of Bell and Magenire, constitutes physiologically an ideal treatment of rebellious neuralgiæ, and attacks only the sensory element of the nerve.

Treatment of Gibbosities of Different Origin by Apophysal Ligatures.—For three years M. Chipault has treated certain deformities of gibbous nature, by what he calls vertebral orthopedy. The process consists, after reducing the gibbosity, of the application of ligatures, in form of the figure of 8, of silver thread upon the apophyses corresponding to it. Once ligatured, the patient is immovable in an orthopedic apparatus for a time variable according to the affection treated. Fifteen have been treated, one succumbing from pneumonia. Of the remaining fourteen, eight were affected with orthopedic diseases of the spine, one rachitic cyphosis, one infantile scoliosis, one rheumatic arthritis of the middle cervical vertebræ with torticollis, five Potts' disease. Apophysal ligatures are applicable, not only to small gibbosities that are easily reducible, but to large ones, provided, be it understood, that they are not anchylosed. Following is the formula, viz.: reduction, apophysal ligatures and orthopedic restraint, a formula indisputably superior to any other heretofore suggested.

SURGICAL SOCIETY.

Surgery of the Liver.—M. Routier: Diagnosis of cancer of the liver is often very difficult, and errors in it are very frequent, and it often happens that a true diagnosis can only be made by surgical intervention. Thus in a case which was believed to be a suppurative hydatid cyst because of the physical symptoms, and that an exploratory puncture had yielded 120 gramm s of pus, there was found, on the contrary, a large pocket in the liver containing cellular debris which a hytological examination proved to be cancerous, result speedily fatal. M. Quenu had had a similar experience. Believing from the general symptoms that abscess was present, laparotomy was practised and revealed a vast cavity filled with the pus of suppurative cancer. Patient was relieved by the operation, pains diminished, but subsequently died from evolution of the neoplasm. M. Auvray described an interesting process of suture of the liver for preventive hemostasis. In healthy livers this method can be employed successfully, but in diseased and vascular livers failures will occur; indeed, in certain cases, nothing can stay the hemorrhage. The following case will illustrate the great difficulty of controlling it. A woman of thirty-seven years, suffering with slight dyspeptic troubles, had, in the epigastric region, a smooth tumor, with all the characteristics of a hydatid cyst, and moving synchronously with the movements of respiration.

An exploratory puncture suggested a multilocular hydatid cyst, and laparotomy was performed. Upon the surface of the liver was a tumor, violet in color manifestly fluctuating, and suspected to be vascular. On plunging the trocar into its interior a jet of blood followed, which was repeated wherever the trocar was directed. On removing it the hemorrhage continued from the orifice in alarming profusion. Compression failed to arrest it, suture was tried, but blood leaped from the new orifices, and was only arrested by vigorous compression for twenty-five minutes and many applications of the incandescent cautery. In such cases preventive sutures of the hepatic parenchyma are simply impracticable, and M. Auvray's method can only be employed for the extirpation of compact tumors or cysts; for vascular tumors it is inadmissable.

Cerebral Tumor.—M. Barette reported a case of vascular tumor in the parietal region. Of cerebral symptoms there were slight nystagmus and amblyopia, which induced the belief that the tumor was located in the visual center, and compressed the vessels at the base of the cranium. It was decided to operate, but incision of the tumor produced frightful hemorrhage, and the patient died upon the table. Autopsy revealed the existence of a tumor in the region of the cuneus, but it had invaded the sinus rectus, the circulation of which was completely intercepted, and hence the secondary production of the superficial vascular tumor.

Renal Tuberculosis.—Surgical intervention for tuberculous kidneys is multiplying daily, and the indications for it should be clearly understood. There are three principal ones: First, profuse hematuria; second, nephritic colic, becoming very painful and reducing the patient to a grave condition; third, infection. Says M. Tuffier: "I have operated either by nephrectomy or nephrotomy in a dozen cases of tuberculous kidneys in which one of these indications existed, always with benefit, and in some instances the cure was definite.

MEDICAL SOCIETY OF THE HOSPITALS.

Application of Röntgen Rays to the Treatment of Acute Affections of the Thoracic Viscera.—M. Rendu reported following case: Patient aged nineteen years, became typhic with symptoms of pneumonia in upper part of right lung. The general condition was improved by warm bathing, but for two months patient became subject to quotidian fever, with profuse sweating, temperature ascent 40°. Phlebitis with cachectic symptoms declared itself. Aus-

cultation revealed persistent cavernous rales, indicating intra-thoracic suppuration, with staphylococci in sputa. His family requested radiographic treatment, administered daily and of fifty-five minutes duration. After the fourth the fever diminished, and though feeble, patient slept tranquilly. On the region of application of Crooke's ampulla there appeared a painless erythema, which extended and covered it with pemphigoid bullæ, leaving painful scars that cicatrized slowly. Despite suspension of treatment, general condition improved, patient regained weight, and the stethoscopic signs disappeared. Nature of the affection is difficult to determine. Was it acute tuberculosis or an intra-pulmonary suppuration that was induced by the presence of staphylococci in the pulmonary fluids? Be that as it may, the action of the X-rays upon the general condition was undeniable. It is impossible to explain it, and the question may be asked if it attenuated the virulence of the pathogenic germ. M. Ducastel: In this patient there existed a very marked infection, with tumefaction of the liver and spleen, and it does not seem as if tuberculosis should be cited as a cause. Experiments in tuberculosis have not as yet given satisfactory results. M. Lannier: Would there not have been an infection of the glands, and was there a bacteriological examination of the blood? As respects the erythema produced by the X-rays, that is frequent, especially in women. M. Rendu: There was no appreciable glandular manifestation, nor was there an examination of the blood, but only of the sputa.

Influence of Heating of Serum Upon Prophylaxis of Post Sero-Therapeutic Accidents.—M. Bèclère said: In the course of experiments made with MM. Saint-Yves and Chambon, it was demonstrated that the serum of the horse when heated and injected prevented the production of the vaccinal eruption, but only an abortive erythema. As regards anti-diphtheritic serum, it loses its action at 59–60°.

M. Widal: The action of heat upon the agglutinative property of typhic serum is very marked. This property disappears on heating to 75–80°.

Renal Abscess Due to the Bacillus of Eberth.—M. Troisier exhibited a specimen of above taken from a young patient affected with typhoid fever during convalescence, from which there supervened a suppurative meningitis; the reaction of the serum was positive. Autopsy showed a purulent exudation, with Eberth's bacilli on the cerebral pedunclcs.

M. Fernet: Patient affected with intermittent hydronephrosis contracted typhoid fever, on the decline of which an obstruction of the ureter occurred, with dilatation of the renal pelvis and abscess, with Eberth's bacilli. The latter opened and produced fatal peritoneal infection.

Operative Intervention in Cases of Exopthalmic Goitre.—M. Debore: A young girl had Basedow's disease, with intense dyspnœa, pulse 150 to 60. Right lobe of the thyroid gland was removed; patient died with persistent dyspnœa, delirium, and finally coma. Autopsy revealed nothing except the existence of a thymus that weighed sixty grammes. Was it a specific poisoning that produced death? the question needs critical investigation. M. Marie: surgical statistics upon this subject are not encouraging. The last, and most complete, gives 33 deaths in 190 operations for Basedow's disease. The theory of poisoning has been advanced by the School of Lyons. In my opinion, said M. Marie, there is no disease of Basedow, but only a syndroma which may be isolated, or may accompany tabes, or occur in persons affected with goitre for many years. In these last, the operation gives the best results, and it is dangerous in the Basedowian disease. The same applies to thyroid medication.

M. Dalche obtained excellent results by the intravenous injection of the serum of Hayem, in the case of a woman infected by streptococci, and who presented all the signs of endocarditis.

Sero-Diagnosis of Typhoid Fever.—MM. Sabrazes and Hugon, of Bordeaux, laid before the society numerous experiments made in investigation of the above. These entirely confirmed the results obtained by Widal.

Anti-Plague Serum.—M. Roux communicated to the Academy of Medicine statistics of cases of plague treated by the anti-plague serum of the Pasteur Institute. These cases, reported by M. Yersin, numbered twenty-three, of which twenty-one were cured. The two cases of death occurred on the fifth day of the disease, the pulse varying from 150 to 160, respiration very labored, in a word, they were moribund at the time of the first injection. All the patients attacked with bubo were cured without suppuration except three, two of them having reached the fourth day of infection, and one the fifth day. Of the twenty-one patients, the cure occurred at the end of from one to five days, and convalescence lasted a very short time. Of those who were cured without injection of serum, convalescence was very protracted. These results are interesting; if we consider that the mortality in cases of plague not treated by the serum was from 80 to 100, on the one hand, and on the other, that the serum employed was preserved without alteration, although subjected to transportation for a long distance and exposed to a high temperature.

BIOLOGICAL SOCIETY.

Action of the Serum of Serpents Upon the Coagulation of the Blood.—M. Delezenne: This serum does not possess any anti-coagulating power. On the contrary, when injected into the veins of an animal in the dose of 0 c. c. to 0.2 per kilogramme, it determines incoagulability. This difference proves that it acts like peptone, by producing in the organism the formation of an anti-coagulating substance, which takes its origin in the liver.

Para-Thyroid Function.—M. Moussu has investigated the functions of the thyroid gland and its accessory glands, and of the opinion that it is necessary to establish a great difference between the physiological functions of the thyroid and the para-thyroid glands. The results of his experiments authorize the belief in the existence of two distinct functions for these glands, functional suppression of the thyroid produces only chronic troubles, while that of the para-thyroid provokes the acute form.

Method of Coloring by Thionine and Picric Acid—Thionine, in concentrated aqueous solution, and when its action is associated with that of picrate alcohol, yields results in coloring far superior to those when used alone, or under ordinary conditions. After the action of the picric acid, the chromatine presents itself in a filamentous or granular form of intense blackness. The other cellular parts are differently colored, and facilitate the most minute cytological investigations. This process of coloration is simple and rapid, and when applied to the study of the normal and pathological nervous system previously fixed by the bichromates, permits the study of the neuroglia cells and their prolongations.

SOCIETY OF HYPNOLOGY AND PSYCHOLOGY.

Psycho-Mechanical Automatism.—M. Lagelouze cited the case of a young girl in whom, by a single experiment of hypnotic suggestion, he succeeded in creating the psycho-motor power necessary for the execution upon the piano of an exercise which the subject was unable to perform previously to the experiment. The requisite movements of the hands and fingers can only be acquired by long and laborious practice, and by which alone can what the professors of music call the "mecanique" be produced.

Again, we know that the movements of the right hand are controlled by the left half of the brain, and those of the left by the right hemisphere. In the normal condition the right brain and the left act together, because the movements of each hand are co-ordinated with those of the opposite hand. But in piano playing, the dissociation of the two cerebral hemispheres becomes indispensable, as the right and left hands have each to accomplish a different work, and each ear must hear and understand a different sound or accord. Hypnotic suggestion permits, first, at a single experiment, a more extensive play of the articulations of the fingers and hand than they possess in the normal condition by the excitation of the corresponding motor centers; second, produces an independence of the two cerebral hemispheres necessary to the simultaneous movements of the two hands.

ACADEMY OF MEDICINE.

General Neuroma and Polyorchidia.—M. Pèan presented two curious facts. First: The presence of two healthy and independent testicles in the right half of the scrotum, the second having been considered, on clinical examination, as a neuroma. Second: The rapid re-establishment of the motor and sensory functions, despite the extirpation of 25 to 30 c.m. of the median and ulnar nerves. Was this restoration due to a budding of the extirpated portions? Scarcely probable if we consider the extent of the excised portion of the nervous trunks. Was there a return of the functions by an anastomatic nervous circulation, whose existence remains to be proved, and a thing impossible to decide? The patient is now in the tenth month after the operation, and there has been no relapse, and another interesting fact, all of the neuromata which remained after the operation in the forearm and the subclavicular region became atrophied and disappeared.

Diphtheritic Paralysis.—The pathological anatomy of diphtheritic paralysis is still the subject of discussion, and the various opinions may be included in three groups: Certain authors localize the lesions in the cells of the anterior cornua of the medulla; others in troubles of the peripheral nerves, and the third and last, after a conscientious examination, have not been able to detect any alteration of the nervous trunks, nor of the cells of the anterior cornua. A series of experiments, by innoculation of rabbits with cultures of Löffler's bacillus, has suggested the following conclusions: The poison of diphtheria seems to affect exclusively the spinal medulla, the medullary nerves and inferior parts of the bulb, the protuberantia and the brain remaining intact. In the medulla the poison attacks especially the nerve cells; lesion of the white substance is exceptional. The affection is essentially sub-acute myelitis, and, as respects the nerves, a degeneracy, very similar to the Wallerian, was observed, and especially visible upon the anterior branches, the posterior being comparatively free; the myelitis was the primary lesion, the neuritis the secondary. In man diphtheria produces two forms of paralysis, the first localized in the mouth, nose, eyes, larynx and pharynx, and due to peripheral neuritis; the second, general through body, and depending upon a primary myelitis, followed by secondary neurites. J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Nitro-Glycerine for Gall-Stone.—Dr. Turnbull, in the *Lancet*, says: I was called to a married woman aged forty-eight, and made a provisional diagnosis of gall-stone colic, subsequently confirmed by Dr. Lauder Brunton. I ordered her one-hundredth grain nitro glycerine, which gave relief in a few minutes; and she has never had an attack since which has not been relieved by this remedy. The use of the drug was suggested by its known paralyzing action on unstriped muscular tissue. Presumably it relaxes the spasms of the gall-bladder and ducts. Perhaps some of the cases of gastralgia that are relieved thereby are really cases of biliary colic.

The Konig-Maas Method of Restoring Persons Apparently Dead From Chloroform.—This is described by Leedham-Green (*Birm. Med. Rev.*), as follows: The operator, standing on the left side of the patient and facing him, places the ball of the thumb of the opened right hand upon the patient's chest, at a point between the apex beat and the sternum. He then repeatedly presses in the thoracic wall with a quick, strong movement, at the rate of 30 to 120 times to the minute. There can be no doubt that the efficacy of the Konig-Maas method lies in its direct action on the heart, restoring not the respiration only, but the circulation also. If on a fresh cadaver the precordium be quickly and forcibly compressed, it is easy to detect a distinct pulse-wave in the carotid arteries, and the pupils will be found to contract as the blood fills the capillaries of the iris.

Rennet in Gangrene.—During the winter following the great fire in Chicago (says Dr. Gilman, in the *Clinique*), I attended a blacksmith whose feet had been frozen. Two or three surgeons had told him that as gangrene was beginning, amputation was the only means of saving his life. When I first saw him the toes and a portion of the heels were gangrenous and apparently dead. The feet were the lighter or deeper shades of purple to the ankles, and rapidly following the same course as the toes. The patient expressed the determination not to submit to amputation, stating he preferred death to mutilation. I had heard that calves' rennet possessed a wonderful control in gangrenous conditions, and here, I thought, being relieved of all responsibility in the matter, was an excellent opportunity to test its efficacy. Accordingly fresh rennet was secured and applied daily to the diseased parts. The result was astonishing; the purple tissues rapidly resumed their normal color, the black tissue becoming purple. Circulation was restored and within two or three days the portions that had apparently been beyond all possibility of help presented healthy granulating surfaces. The case recovered with the loss of the distal phalanx of the great toe of one foot only. Since that time I have used pepsin in one form or another for all conditions where there is incipient gangrenous degeneration, with thoroughly satisfactory results.

Treatment of Simple Chancres by Heat.—Dr. Audry, of Toulouse, gives in the *Jour. des Malad. Cut. et Syph.* (*Med. Visitor*) a very simple method of applying this agent. It is easy, efficacious, and the pain that it may cause is quite bearable.

The chancre or chancres having been well exposed, washed, and wiped quite dry, the blade of an incandescent cautery is placed near, without touching the sores. The distance between the thermo-cautery and the sores must be quite small, not over half a centimetre. The blade must be at a white heat if it is a small one, and cherry red or dark red if the larger points are made use of. The instrument is kept in position during a lapse of time which varies according to the size of the incandescent surface. It will readily be understood that the time will be shortest with the largest points, since they give out a greater intensity of heat. In a few seconds the surface begins to get dry; small, bleeding striæ appear upon the edges. Finally, if the heating has been too prolonged, the neighboring epidermis is uplifted and the skin reddens.

As a rule, a single seance is enough, but it may be renewed two or three days later if the sore still seems to be virulent.

Any dressing will do, but even under these circumstances iodoform is very useful.

It is surprising how rapidly the cure of even large and numerous chancres takes place. Finally, Dr. Audry particularly recommends this procedure for the treatment of inoculation chancres, which, as is well known, often are disagreeably slow to heal.

New Treatment of Burns.—Dr. Poggi (*Med. Week.*) has found that the addition of a few teaspoonfuls of potassium nitrate to a bath, in which the burnt part is incased or plunged, will quickly cause the cessation of pain. The water becomes heated after a while, and the pain reappears, but quickly subsides upon the addition of another quantity of the salt. When continued for several hours, it is said this treatment will prevent the production of phlyctenæ.

Dr. Vergely, of Bordeaux, obtained a similar result by covering the burnt tissues with a paste prepared by mixing calcined magnesia with a certain quantity of water

and allowing it to dry upon the skin, and renewing it as soon as detached. The wounds are stated to heal without leaving trace, and pain is prevented.

Nitro Glycerine in Angina Pectoris.—Schott (*Wiener Klin. Rundschau*, September 6, 1896) advocates the following prescription as the most efficacious form of administering nitro glycerine in angina pectoris:

℞ Nitro glycerine.....gr. iij
Tinct. capici.....3 ss
Spir. rectificat. } aa.....3 iij
Aq. menth. pip. }
Sig.: 2 to 10 drops.

In one minute the action of the drug is manifest, and in scarcely three minutes the pain is entirely done away with. As the patient grows accustomed to the dose it must be increased, and if this be done carefully, there is no great danger to be anticipated.

RETROSPECTIVE DIETETICS.

Nutritive Value of Meats.—In a recent article on the value of meats as food, in the *Dietetic and Hygienic Gazette* (*Albany Med. Annals*), Prof. R. H. Chittenden corrects several widespread misconceptions regarding meat values. He says: "The cheapest food is that which supplies the most nutriment for the least money. The well-known maxim that 'the best is the cheapest' is not true of foods, for the term 'best' in this connection is ordinarily applied to that which has the finest appearance, the finest flavor, the most tender structure, etc. Thus, there is no more nutriment in a pound of proteid from tenderloin steak than in the same weight of proteid from the neck or shoulder, and yet note the great difference in cost. A great deal of money is spent by people who can ill afford it, because of this notion that the more expensive cuts are the more nutritious; much of it perhaps attributable to lack of knowledge of the art of cookery. Here is a field for missionary labor that will well repay the cultivation. A waste of food material is a crime against both pocket and morals." In speaking of the relative value of meat as a food, Prof. Chittenden says: "Various extractives, active principles, etc., all endowed with more or less physiological properties, are likewise ingested as a part of the meat, and add to their effects, perhaps, to aid in keeping up the tone and vitality of the organism. Meats have certain stimulating properties, which distinguish them from the grosser vegetable foods. In this respect they might perhaps almost be classed with such articles as tea, coffee, etc., in their power of ministering to the wants of the brain and nerves. As Sir William Roberts well says: 'The struggle for existence, or rather for a higher and better existence among civilized men is almost exclusively a brain struggle, and these brain foods must be regarded as a very important part of the equipment for that struggle. If we compare, as best we may with our limited information, the general characteristics of the high-fed and low-fed classes and races, there is, I think, to be perceived a broad distinction between them. The high-fed classes and races display, on the whole, a richer vitality, more momentum and individuality of character, and a greater brain power than their low-fed brethren; and they constitute the soil or breeding ground out of which eminent men chiefly arise.' Again: 'Trainers will tell you that the hunter and the draught horse require to be fed differently. In the hunter is wanted rapid liberation of energy within a comparatively short space of time; in the draught horse is wanted a more gradual liberation of energy and for a longer period. The hunter is fed on concentrated and stimulating food, the heaviest and most expensive oats, which, if I may so express it, is the beef of vegetable feeders, while the draught horse is fed on a lower and less stimulating diet—on Indian corn, and chopped hay, food which tends to increase bulk and weight.' So with mankind, the nature and quality of the nutrient—aside from its containing the due proportion of the several requisite elements—exert a specific influence upon the character of the body, and the meats may be fairly placed in the front rank of foods as giving important aid toward that higher physical and mental development which belongs to the civilization of the nineteenth century."

Value of Peptonized Food.—It cannot be denied (says the *Therapeutic Gazette*) that the introduction of peptonized food into the diet list of the sick was a distinct advance in hygiene and therapeutics. In certain cases where patients seem utterly unable, for a time, to digest and assimilate food, the administration of pancreatized milk or eggs by the mouth or by the rectum undoubtedly often saves life. On the other hand, as with every good thing in therapeutics, we must not forget that these pancreatizing liquids, powders, and other preparations should not be used for an indefinite time in any case, and that their value is greatest rather in acute than in chronic illness. Sir William Roberts, who has done so much in regard to the popularizing of peptonized foods, undertook a series of experiments with the object of determining the exact effect of their use. He concludes: "And, we think, very properly, that, except in extreme cases where the digestive power is wholly lost, or in complete abeyance, it is more advantageous to use food which has been subjected to only partial artificial digestion than to use that in which the process has been carried out to completion, for if the patient possesses any digestive power at all it is better that that power should be kept in exercise than allowed to deteriorate from total disuse.

Further, it is not advisable in most cases to continue the pancreatizing of food for any greater period than is absolutely necessary for the maintenance of the nutrition of the patient.

A New Bread for Diabetics.—Ivor Bang (*Norsk. Mag. f. Lager; Univ. Med. Jour*). By triturating only the superficial layer of the grain after preliminary decortication, has succeeded in obtaining a flour extraordinarily rich in nitrogen, which can easily be made into bread. This bread resembles the ordinary home-made bread, but contains almost twice as much albuminous substance. He made experiments with it on prisoners condemned to a diet of bread and water. After two periods of five days each, with an intermission of five days in which he was given ordinary food, the author found that the new bread was absorbed three times more readily than black bread. It may therefore be employed to advantage in the diet of diabetic patients.

The Folly of an Exclusive Meat Diet.—The non-digestion of starch (*Mod. Med.*) is unquestionably one of the most common causes of disordered digestion.

This is doubtless the chief cause of the extensive use of beef and other forms of flesh food in this country. Meat is readily dissolved in the stomach, and its digestion is not accompanied by the flatulence, acidity, and other distressing symptoms present in amylaceous dyspepsia.

A beef diet is the most ready means of obtaining relief from these annoying symptoms, and hence is one of the most common diet prescriptions made by physicians, and one which is, perhaps, more frequently than any other made use of by patients for themselves.

The result is relief from a certain set of symptoms, but at the same time the development of others which, if less disagreeable, are in the end not less serious.

An exclusive meat diet robs the system of its proper supply of fat, and overwhelms the body with a great quantity of ptomains, leucomaines and tissue poisons, which decrease the resistance of the body to disease.

Bouchard, Rogers and others have shown that the poison-destroying function of the liver depends upon the amount of glycogen which it contains.

This is almost exclusively derived from the starch of "farinaceous foods," hence a person who, in consequence of inability to digest starch, confines himself largely to meat diet, is exposed to the double injury, the introduction of toxic substances into the system and the lessened ability to destroy toxins and ptomains.

The dyspeptic who is suffering from the inability to digest starch, in exchanging a farinaceous for a flesh diet simply exchanges one class of morbid conditions for another, the biliousness or general toxemia, the uric acid

diathesis, and the resulting rheumatism, neurasthenia, and allied conditions which proceed from a meat diet being far more serious in their ultimate effects than the acidity, flatulence, and other annoying symptoms experienced from the indigestion of starch. The fermentation of proteids in the stomach, intestines and colon, which always accompanies a flesh diet, produces toxic substances of a peculiar character, while the fermentation of starch results in the formation of acids and gases which are annoying and irritating, but not to any degree toxic.

The substitution of a meat diet for one consisting of farinaceous foods, while a convenient mode of dissipating certain unpleasant symptoms, is, nevertheless, not the best remedy for this condition.

What the patient requires is not the withdrawal of starchy foods, but the ability to digest them.

Diastase in Therapeutics.—Dr. C. C. Fite read an interesting paper before the New York Medico-Surgical Society, January 4, 1897, on this subject. He says, in part:

So far the only chemist who has succeeded in producing an isolated diastase economically and on a large scale, is Jokichi Takamine, the Japanese chemist. (See the *London Lancet*, May 25, 1896.) This investigator received his scientific education at the Glasgow University. He devoted some years to the study of malting and the production of diastase and other ferments, and upon his return to Tokio was fortunate enough to find that erotium oryzae was what he desired. The process he finally perfected is in brief as follows: The seed of the eurotium is sown on moistened and sterilized wheat bran. The growth is rapid, and after the plant has reached maturity, he calls the bran with the growth on it "taka-koji." Upon examining this growth under the microscope, it is found that the roots of the erotium which have penetrated the bran, are covered with crystals of pure diastase. These diastase crystals have the property of converting the starch of the bran for the nourishment of the plant. Takamine named the diastase so produced, taka-diastase. In preparing this diastase for use in medicine it is necessary to get rid of the spore. This is done by percolating the taka-koji with water, and adding to this solution diastase alcohol, when the diastase is precipitated and the activity of the spores is destroyed. It is then a simple matter to further purify the diastase and preserve it in a dry, powdered form indefinitely. * * *

In the practice of some friends, who have reported the matter to me for elucidation, this form of diastase seems to have other properties than its action on starch. In one notable case in which pepsin and other methods of treatment failed to give any benefit, although every symptom and test seemed to indicate that it was an undoubted case of albuminous indigestion, the result was not only palliative, but curative. I have endeavored to have this matter settled by laboratory experiments, but so far the results have not been entirely conclusive, so any theory on this question for the present must be based mainly upon clinical evidence. This diastase does, as was shown by the experiments referred to, *disintegrate* albumens, but the proteolytic action *apparently* stops short of the production of albumoses and peptones. As to what takes place in the intestinal tract of course we cannot yet say. It is altogether probable that the benefit in these cases is due to the promptness with which the first period of digestion is carried on, and the conversion, instead of the fermentation of the starchy foods, leaving the second process, the acid peptic digestion, to go on normally without being interfered with by deleterious products, and the partial disintegration above referred to doubtless promotes the activity of the gastric juice by giving it freer access to the particles of albumen. * * *

Since this paper was written, I have been informed by Mr. F. A. Thompson, a skillful Detroit chemist, who has given close attention to this subject and performed a number of elaborate experiments with diastase and other digestive ferments, that he has found that taka-diastase does undoubtedly, not only disintegrate albumens, but produces albumoses and peptones as well. This is an important and interesting discovery, and perhaps confirms the work of the German chemist, Bezanes, who found that in producing diastase from malt, a by-product, which he named peptase, was formed, which acts on albumen. It is, therefore, evident that as there is formed in grain a product to change the albumen of the grain as well as the starch converting ferment, so the eurotium has a ferment similar to peptase for converting vegetable albumen for its nourishment. The peptase produced in malting is extremely slow in its action, due perhaps to its being interfered with by the thick gummy malt products.

Surgical Hints.—When a wound, either accidental or operative, shows signs of infection, never wait for suppuration. Immediate incision, thorough disinfection, and drainage, if necessary, relieve pain, shorten the duration and prevent extension of the inflammatory process.

In draining a suppurating wound, never cork it up by packing gauze in it. The smallest strip that will reach the bottom of the cavity, very loosely applied, is the best.

Constitutional treatment is all-important in all forms of diffuse surgical inflammation.

Recurrence of carbuncles and boils suggests an examination of the urine for diabetes.

See that patients have a good night's sleep before an operation.

Skin-grafting will not succeed upon an unhealthy surface.

Watch patients with burns of the pharynx and larynx; be ready to operate at once. Severe dyspnœa may occur with appalling suddenness. If the patient is getting cold and feeble, his ability to feel pain has greatly diminished. Waste no time in anæsthesia in emergency tracheotomies. —*International Journal of Surgery.*

Chloroform Adds to the Danger of Perineal Laceration.—Dr. D. Rose (*Medical Council*) argues as follows:

If the perineum can be saved at all, it is by slow dilatation. Slow dilatation is secured by preventing the patient from using her voluntary muscles. A patient under chloroform, short of the surgical degree (which degree is not justifiable in ordinary labor), instead of using them less, knows just enough to bear down with all her strength, and nothing more, and the head is forced rapidly over the perineum and the danger thereby decidedly increased.

There is only one way a patient can avoid straining when the head is on the perineum, and that is by breathing rapidly, which she should be taught to do before reaching that stage, and which she cannot do if under chloroform.

If she is breathing, and the involuntary contractions are forcing it too rapidly, keep it back by pressing on the head until the pain is over, then, between the pains, have her bear down just enough to deliver the head slowly.

If the doctor has the patient's confidence, and that influence which comes with it, he will have no trouble in getting her to do what he tells her, and her voice will not be heard in the next room.

Treatment of Tuberculosis by Peru Balsam.—(Prof. A. Landerer, Leipzig.) We must endeavor to find some antidote for tubercle bacillus, some great agent which will destroy it. Mechanical and balneo-therapeutic agents can be only auxiliary; the list of soluble antiseptics has been exhausted without effect; arsenic seems to have given the best results. Actually corrosive agents should be avoided. It has occurred to me to establish, in tuberculous centers, depots (stores) of matter which would be difficult of solution and antiseptic. Emulsion of iodoform was the first experiment, but failed, and I also feared the unknown iodoform poisoning. I have not tried creolin. Accidentally I considered Peru balsam. Tried it first on scrofulous purulent glands. Results exceeded my expectations; worked best on fresh (scarified) surfaces; granulations are not affected as much as raw surfaces. I used a mixture of ether 1, Peru balsam 5, or a plaster (adhesive) same composition.

Fistulas were syringed with the ether solution and sometimes suppositories inserted. In this way twenty-two cases of purulent glands were healed, some of them six years old, and with infiltration down to under the sterno-cleid-mastoid muscle. There were no anæsthetics employed, and the cure was permanent in all cases. The appli-

cation of this remedy upon the various glands and joints had the same good effects. The effect of this remedy is that about the end of the second week the wound has grown smaller and is filled (lined) with benign scarlet granulations. This led me to consider the introduction of Peru balsam into closed tuberculous foci. The Peru balsam is not soluble in those media which are usual for subcutaneous injection, and stronger alcohol or ether solutions, applied to the ears of rabbits, produced necrosis. Therefore it was necessary to make an emulsion. I used mercury, gum arabic and a little ol. amazg. I neutralized the acid reaction by sodium hydrate. I diluted this emulsion with physiological salt solution (0 6 to 0.7 per cent.) in proportion of 1-400 to 1-50, even the lowest dilution, 1-16. I injected from a few drops to two cubic centimetres. Later I made an emulsion with yolk of egg, equal parts.

The immediate effect, especially in soft tissue, is mostly *nil*; sometimes there is a little pain, which yields to cold applications. In injection in cavities, like joints, tendon sheaths, etc., the pain is greater, and I used high dilutions or added cocaine. In superficial wounds a slight local œdema resulted, which lasted two to three days; then the application was repeated. The local effects are less when using the yolk of egg emulsion, even in 1-10. The effect of the injection is always a reduction (contraction) of the tuberculous fungus (fistula in coxitis, in inflammation of sheaths of tendons after six injections) without harm to the surrounding tissue. I inject also into tuberculous abscesses, which generally break externally, as Peru balsam excites inflammation. This may be a drawback as against iodoform, but the abscesses generally heal after a few injections. I never omit the customary conservative treatment of tuberculosis of bones or joints. As a rule I operate only on purulent lesions. In this way I treated coxitis in twelve cases; one of them relapsed (again cured); spondylitis, seven cases; gonitis, nine cases, some had to retain their crutches; joint of foot, three cases; calcaneum, ten cases; ulna and elbow, six cases; wrist joint, four cases, (one dismissed with ankylosis); phalanges and metacarpus, four cases; ribs, four cases; sternum, one case; os sacrum, one case; face, one case; skin, seven cases; soft tissue, four cases, (abscesses between muscles). In œdematous swelling of joints, etc., it is sometimes difficult to distinguish the focus, and there is time lost by missing it.

Of course I endeavored to make internal tuberculous foci accessible to the same treatment. As the insolubility of the Peru balsam in water excludes any medicinal effect which would be dependent on absorption of dissolved constituents, there remained only the mode of intravenous injection. Tuberculous foci are embolic, carried and lodged by the blood current; the medicine should be sent via the same route. If the corpuscular elements, as in a Peru balsam emulsion, do not exceed the size of a red blood corpuscle, there can be no obstruction in the capillaries. With the gum emulsion I first employed, I made about 1,000 intravenous injections on rabbits, about 100 on persons, without any bad effects. In three cases I observed a momentary depression, lasting a few minutes only. I discovered the cause by directly observing the circulation in the pulmonary capillaries of a frog. Successive balsam corpuscles would adhere to any accidentally arrested corpuscle and thus cause coagula, which occluded the capillaries. In yolk of egg emulsion the corpuscles are smaller (10-15 equal a red corpuscle in area), and there is no adhesion. It would appear that the corpuscles are *at once* absorbed (enveloped) by white blood corpucles. The fate of corpuscles introduced into the circulation is not a matter of accident. Ponfick, Slavjansky, Cohnheim, Rütimeyer, etc., have determined that they are chiefly lodged where circulation is retarded, but mostly at inflammations or lesions, where the circulation has undergone a change. It is, therefore, presumable that they lodge in tuberculous foci.

I have, so far, six cases of persons injected with Peru balsam.

Case I.—Man; large cavity in right apex; pyrexia; sputa, 1885-6. Patient left during treatment; died 1887.

Case II.—Woman of thirty-two; caries of foot joint, led to amputation of limb; caries of one wrist; night sweats, expectoration, etc; sputa with bacilli. Wrist cured since three and a half years, has gained twenty-five pounds (twenty-eight pounds U. S), has borne a healthy child and nursed it for seven months.

Case III.—Young man with evening temperature of over 40°, was treated six weeks, every other day; then left and died in three months.

Case IV.—Man of forty-three; one leg amputated for caries; tubercular lesion of elbow; apices of lungs affected; fever; expectoration with bacilli. Cured since two and a half years; elbow movable; one lung apex contracted.

Case V.—Young lady, invalid since four years; tuberculosis of intestines; eight to twelve bloody stools per diem; œdema of legs. Was treated for four months, one injection every other day; has gained twelve (thirteen and one-half U. S.) pounds; has two to three normal passages per diem. Can even ascend mountains now.

Case VI.—Man of twenty-eight; two brothers died of tuberculosis; was obliged to live in Davos; had tuberculosis of wrist, phthisis of larynx, caverns in both superior lobes; sputum had many bacilli. After six weeks the voice is nearly normal; there are fewer bacilli in sputum; gained five pounds in weight; can hold articles with the sick hand; case continues.

Case VII.—Man, forty-two; wife died of phthisis pulmonaris; few bacilli in sputum; dullness, size of palm, under right clavicula. Treated since six weeks; dullness clearing (not gone); no bacilli in sputum. Case continues.

Case VIII.—Man, twenty-eight; cavern corresponding to right upper lobe; left upper lobe infiltrated; sputa abundant (nearly pure culture of bacilli). Treated for nine weeks; expectoration and bacilli became less; patient discontinued treatment. Real improvement is out of question. Besides these I have treated two cases of cystitic tuberculosis with complete results; one involved a fistula, which healed.

The use of balsam Peru has received occasional notice within the past few years in the treatment of tuberculosis, but the details of the treatment have never been given as clearly as in the above article, which we translate from the original.—EDITORS.

Eucaine in the Anæsthesia of the Urinary Passages.—A recent experience of Goerl (*Rev. de Ther. Med. Chir.*) shows that eucaine is not a suitable agent for producing anæsthesia of the mucous membrane of the urinary system, whenever hemorrhage is to be guarded against, since, unlike cocaine, it causes hyperæmia at the point of application. The author recently made use of a solution of eucaine to anæsthetize the bladder of a patient suffering from tumor of that organ. The introduction of the solution produced a slight smarting, and was followed by a somewhat abundant hematuria.

The Ocular Symptoms of Bright's Disease.—Dr. S. E. Cook, discussing this subject in its relations to life insurance (*St. Louis Medical Review*, August 29th), says: "In the ophthalmoscope we have an important aid to diagnosis that has been too little utilized, but which is bound to increase its usefulness with time. To be sure, in only a certain proportion of cases of albuminuria do retinal changes occur—from 20 per cent. to 30 per cent.—but such retinal changes may be present in cases in which the urine at the time of examination is entirely free from albumin. In some cases retinitis is absolutely the only recognizable symptom, and its footprints are never blotted out entirely. In many of the insidious and doubtful cases an ophthalmic examination will give us valuable and sometimes positive information. Diminution in the size of the arteries, as compared with the veins—they should be as 2 to 3—whitish spots scattered over the fundus, especially if arranged about the macula, and the slightest trace of hemorrhages, in a person over forty, should make one almost certain of renal disease, and demand repeated and thorough examination of the urine.

The Detection of Spinal Caries by the Roentgen Process.—Noble Smith, (*Brit. Med. Jour*) speaks of the value of skiagraphy in obscure cases of spinal caries, and cites two cases in which the process was especially serviceable to him. One was a boy of five and a half years, with persistent contraction of the right sterno-mastoid muscle, with a lateral curvature of the cervical spine and some œdema of the neck. The absence of caries of the spine is clearly shown in a skiagram taken by Mr. Sydney Rowland.

The second case was that of a young woman of twenty-seven years, who complained of severe pain in the cervical and upper dorsal regions upon the least movement, and a choking sensation upon attempting to swallow. The symptoms had been attributed to hysteria. The skiagram showed distinctly severe disease above the fourth cervical vertebra.

Mr. Smith concludes by stating that this diagnostic process must be most applicable in the neck, for except in very young children the obstruction caused by the sternum and other dense tissues interferes with a satisfactory shadow of the vertebræ.

Warm Solutions of Cocaine.—Da Costa has found that the local anæsthetic effect obtained with cocaine is more rapid, more intense, and more lasting if the solution is warm. The dangers of intoxication are thus much diminished, as the quantity of cocaine can be very much reduced if it is warmed. A solution of 0.5 or 0.4 per cent. heated will produce a powerful effect.

Asthma.—Dr. Charles P. Grayson says in the *University Medical Magazine* that he does not think asthma is a neurosis. The cause of the trouble should be sought for primarily in the gastro-intestinal canal. Successful treatment should include a regulation of the digestive organs and of diet, as well as attention to the nasal passages.

Ether and Chloroform.—The *Medical and Surgical Reporter* (*Med. World*), gives the following instances in which chloroform is the preferable anæsthetic: 1. Chronic endarteritis occurring in those advanced in years. 2. Chronic inflammatory affections of the respiratory tract and advanced pulmonary disease Of course, acute catarrhal affections of the respiratory tract are equally forbi ding to the use of ether; but a patient suffering from such an acute inflammation should, unless delay was hazardous, be cured of his catarrhal condition before being subjected to any operation requiring a general anæsthetic. 3. Renal disease, acute or chronic. 4. When there is a history of ether having been taken badly at some former operation. 5. Chronic alcoholism. 6. Those cases in which the galvanic cautery is to be used in the neighborhood of the mouth or ear passages. 7. Cerebral tumors or abscess. 8. In old age. 9. In puerperal eclampsia, where an immed.ate effect is required. 10. Night operations with artificial light. 11. During labor. 12. In military and naval practice. on the field of battle, its use seems to be at times justified, although strongly contra-indicated.

The following conditions are looked upon as peculiarly unsuited to its administration, if not. indeed. prohibitive: 1. Surgical shock. 2. Epilepsy. 3. Spina bifida and hydrocephalus (Morton). 4. When there is a tendency to syncope. 5. Fatty heart and chronic valvular disease. 6. Acute alcoholism, Delirium tremens (Sansom). 7. Fatty liver. 8. It is unsafe to give chloroform to a patient already under the influence of chloral, whether in obstetrical practice or otherwise.

A Cause of Naso-Pharyngeal Catarrh.—A function of the naso-pharynx is to moisten the inspired air. Dr. Freudenthal, of New York (*Lancet*), shows that the mucous membrane of the air passages requires a certain moisture in the atmosphere in order to properly perform its function. If this is wanting, the membrane soon becomes dry, even in summer. In the winter the atmosphere of the room should contain from 50 to 60° Fahr., relative humidity, and never below 40 degrees. In testing a great many houses he found, in very cold weather, that a relative humidity of 25 degrees, 20 degrees or even 18 degrees was not unusual. It is impossible to say how detrimental this state of things is.

To Prevent Hemorrhage.—In the course of a description of a case of lympho-sarcoma of the left side of the naso-pharynx, Mr. Watson Cheyne makes the following note (*Lancet*):

"An hour before the operation a pint of water containing half an ounce of chloride of calcium was injected into the rectum, with the view of increasing the coagulability of the blood, and during the operation pledgets of salicylic wool, soaked in Wright's fibrin ferment solution, were applied to the freshly cut surfaces. Whether as the result of this treatment or not, the fact is that extremely little blood was lost—I do not think more than an ounce or an ounce and a half."

The Cause of Addison's Disease.—Since this malady was first clearly defined as a pathological entity, its cause has continued a mystery, but the problem of its causation seems (*Mod. Med.*) to have been recently solved by a discovery made at the Pathological Institute of Berlin, *viz.*, that a brown coloring matter, known as pyrocatechin, or brenzcatechin, is secreted or formed by the supra-renal capsules. Its production is confined to the medullary substance of the glands. This peculiar substance quickly turns brown by contact with the air, which explains the brown pigment present in Addison's disease. Investigation of its properties shows the pyrocatechin to be a poison, which leads to the natural conclusion that it may be responsible, not only for the pigmentation, but for the other symptoms characteristic of Addison's disease.

Metallic Silver and Silver Lactate and Citrate in Surgery.—In the *Deutsche Med. Zeitung* for March 26th, (*N. Y. Med. Journal*, April 25th), Dr. Credé has given the results of his investigations of silver and some of its antiseptics. He has satisfied himself that metallic silver, when brought into contact with colonies of schizomycetes, kills them without exerting any unfavorable action on the animal tissues. Credé has found that aseptic wounds, covered carefully with silver foil, remain aseptic for weeks at a time, and heal better than with any other dressing. Instead of silver foil he has lately employed a dressing material made by Max Arnold, of Chemnitz, in the fabric of which metallic silver is intimately blended in such a manner as to admit of its being cut or torn into any shape desired. There is also a dressing in the form of a mull containing powdered silver, that may with advantage be substituted for iodoform gauze in packing deep wounds.

Numerous experiments have shown that silver forms a lactate with the lactic acid produced in the metabolism of the micro-organisms, and that this compound kills them. Therefore it occurred to Credé to make direct use of *silver lactate*, instead of silver in the metallic state. This preparation, known by the trade name of *actol*, he thinks fulfills all the requirements of an antiseptic better than any other. He has given as much as fifteen grains of it subcutaneously without the least ill effect; there was only a slight burning pain at the site of the injection, lasting but a few minutes. Silver lactate forms no insoluble compounds with the alkaline secretion of a wound or with tissue juice, as, for example, corrosive sublimate does, but only soluble ones, which gradually permeate the tissues, and thus extend their action to some distance from the surface.

Silver citrate, however, seems to be quite as efficient, and to be free from some minor disadvantages (not specified) of the lactate. The citrate has the trade name of *itrol*. Credé says that it is a perfectly harmless antiseptic and an excellent dusting powder for wounds. In the course of four months he has treated many hundreds of wounds with it, and with never the least untoward effect.

The Obstetric Binder.—The *Medical Council* for November presents a formidable indictment against this time-hallowed appliance. Its use is characterized as one of the superstitions that cling tenaciously to the lying-in room, and are destined to linger long after science has decreed their banishment. That it is doomed, however, is declared to be shown by the following facts;

It means undue compression of the uterus, and interference with the freedom of its circulation, notably the return flow of blood. This implies passive congestion and a soggy uterus. Nor is this all, for sub-involution is thereby almost assured, certainly a retarded involution. But a preternatural enlarged uterus that is passively congested, and that has been subjected to the backward and downward pressure of a binder, is very liable to retro-displacement and prolapsus. Endometritis and leucorrhœa are natural effects of these conditions.

The ovaries are likewise affected by the lessened mobility and hampered circulation. They also become congested, and, being composed externally of thick, dense, unyielding, white fibrous tissue (the tunica albuginea), they become very painful and tender. Irritable ovaries, so often a residue of parturition, are frequently ascribable to the binder, especially a very tight one, long applied.

The passive congestion of the pelvic contents and floor resulting from a tight binder continually employed, retards healing of wounds, thus in all probability making a perineorrhaphy necessary because of retarding union, where, without the binder, sufficient union might have been secured to leave a useful perineal body.

The effect of the binder upon the bladder, especially if it is reinforced by a hypogastric pad, is marked. As this viscus distends because of the accumulation of urine, it usually mounts upward toward the umbilicus, and forwards. The binder prevents the latter movement and hinders the former. It also forces the viscus downwards in the direction of least resistance. The result is a bulging of the anterior vaginal wall, a commencing cystocele and a partial prolapsus of the urethra. A pocket is thus formed at the base of the bladder for the retention and decomposition of urine, causing in its turn vesical irritability that may become chronic. A train of ills, including the unhappy hypochondriasis of vesical disease, may also follow, forming a picture which the clinician dreads.

The rectum does not escape the general sluggishness of the pelvic contents caused by the persistent use of a tight binder. Nor is it possible for fæcal accumulations to pass through a compressed and passively congested bowel as readily as under normal conditions. The effect of increased pressure in an exaggerated form is often witnessed in the turgescence, varicosities and protrusion of the hemorrhoidal veins at the verge of the anus and within the grasp of the internal sphincter ani. Piles thus produced, or previously existent but aggravated by labor are more apt to continue during the use of the binder than they are to disappear. So also does this unscientific appliance aid and abet constipation.

Hypogastric pain and backache, with probably dysuria and piles, thus not only often become avoidable accompaniments of the irksomeness of the lying-in period, but may be indefinitely perpetuated long after the pelvic organs should have resumed their normal state. The indirect effects of this continued suffering upon the mother are lost or defective sleep, irritability, nervousness, anorexia, impaired nutrition, loss of weight, neurasthenia. This inevitably entails deficient quantity as well as quality of breast milk. The child then suffers. It is starved or it is bottle fed. It may suffer all the penalties of deprivation of good, natural food.

These remarks are not intended to imply that this entire train always follows the persistent use of the tight binder. Sometimes it does no damage at all. Occasionally someone falls out of a four or five story window without sustaining any injury, and yet it does not become an advisable practice because of such exceptional immunity. Let us not too readily accept all that is handed down to us from the notables of the past. Those practices which cannot successfully withstand the test of impartial examination and critical reasoning should not be permitted to survive.

The Dirty Sponge.—Prof. Lang, of Vienna, declares that sponges, owing to the impossibility of destroying germs in them, have long since been banished from the surgeon's table, and should also be excluded from the bathroom and washstand.

Ominous Symptoms in Smallpox.—According to Dr. Llewellyn Eliot (*Virginia Medical Monthly*), there is a peculiar smell in this disease which often aids in the diagnosis. It cannot, however, be described, and it is not always present. There are certain omens about this class of patients which, while they are not assured and invariable in their appearance, are, he says, of very grave prognostic import. For instance, Dr. Eliot has always noticed in moving a patient to the hospital, that those who voluntarily covered their faces and heads, without any suggestion to do so, invariably died. When the face of a white patient assumes a dark, leaden hue during the first days, death may be predicted almost with certainty. Those patients who presented great swelling of the face and head in the beginning always suffered from severe attacks. There is a peculiarity of the walk which is very ominous; the patient lifts the feet high, as if he were ascending stairs, and this applies to the early eruptive stage.

Iodothyrin.—This name has been applied to a trituration of active constituents of the thyroid gland with milk sugar. It is claimed to be more certain and rapid in its effects than the gland or its extracts, and to be absolutely permanent.

Is Iron an Element?—J. Parry (*Chemical News*), basing his opinion on the spectrum of iron and the effect of temperature on the spectrum, comes to the conclusion that iron is not a simple element.

Diagnosis of Pregnancy by the Shape of Urinary Phosphates.—Parke, of Philadelphia, (*Am. Gyn. and Obstet. Jour.*, September, 1896. *Am. Rev. of Revs.*) has studied seventy-five specimens of urine of women known or thought to be pregnant, with the result of confirming some researches made by Gray, of Richmond, nine years ago. When conception occurs the triple phosphates in the urine change their form. They lose their feathery appearance, the change beginning at the tip and progressing toward the base. One side only may be affected, or both, leaving only the shaft, and perhaps a few fragments adhering. The shaft assumes a beaded or jointed appearance. These changes commence within twenty days after conception, and are most marked in the early months, and almost absent in the later months. When the death of the fœtus occurs, the phosphates, according to Gray, resume their normal appearance; but Parke has not had the opportunity of confirming Gray's statement. The change in the form of urinary phosphates being recognizable very early, it is of the greatest value when other signs are of the least reliability or not present at all. A diagnosis of probable pregnancy can be made without a physical examination, or without exciting the suspicion of the patient.

Latent Gonorrhœa.—Dr. Rosenwasser says of the gonococcus of Neisser (*Cleveland Med. Gazette*): The locations of choice are the urethral and vaginal portions of the cervix. A person may in time become accustomed to his own brood of germs so that they cease giving trouble. Transplant them to new soil and they at once affect the recipient with pristine vigor. Then if these regenerated germs are returned to the original owner, they will initiate as vicious action as though they had never been there before. This is his explanation of "latent" and "recurrent" gonorrhœa.

OBITUARY.

DR. ELLEN C. LEGGETT, wife of Dr. Charles P. Leggett of Flushing, died January 17th.

MISCELLANY.

—For leucorrhœa, Donovan's solution is useful, the arsenic acting as a tonic.

—Whooping cough is said to be relieved by five to ten drops of fennel oil, twice daily.

—Stone in the bladder may be diagnosticated by attaching the phonendoscope to the sound.

—Dr. Ottinger recommends icthyol for the bites of insects, in the form of a paste or ointment.

—Geranium will be found an invaluable remedy in any form of hemorrhage, and also in contusion.

—Baroness Hirsch has given $400,000 to build a hospital for consumptive children on the Rivera.

—He whose life has failed to make the world better than he found it, must find it very hard to die.

—To remove blood stains, soak the towels in warm water, to which is added a teaspoonful of tartaric acid.

—The Missouri Board of Health have recommended that the cause and prevention of consumption be taught in the public schools of the State.

—Prof. Hilgard, of the State University, Berkeley, finds, after careful investigation, that California fruits have far greater food strength than European fruits.

—Sir Joseph Lister has been raised to the peerage and is now Lord Lister. The new blood which finds its way into the peerage from year to year is all that saves it from annihilation.

—A line of steamers on the great lakes has announced that it will give a prize of $250 in gold for every baby born on one of its vessels this season, $500 for twins and $1,000 for triplets.

—Investigators with the Röntgen ray, in turning it upon the diaphragm during an attack of asthma, say that the right half stops working, leaving the left half to do all the work.

—Clinical thermometers should always be cleansed with antiseptic care after using. This is neglected by many physicians, even after use in the mouths of patients ill with infectious diseases.

—The Commissioners of Charities have an appropriation of $1,000,000 for enlarging and improving the hospital accommodations. This will include a new hospital in the Harlem district.

—Dr. Weil, in the *Practitioner*, asserts that the vomiting of pregnancy can always be relieved by a 20 per cent. solution of menthol in olive oil. The dose is ten drops, to be taken on sugar.

—A Yankee lawyer charged in his bill $25 for the time spent in consulting a physician about his client, but advised against allowing the physician $5 for the part which he took in the consultation.

—During the past ten years the number of medical students in the United States has increased from 10,600 to 17,600, and each year hundreds desert the ranks of the profession for lack of employment.

—A Maternity has been organized by the Commissioners of Charities in the Metropolitan Hospital. During the past six months there have been about 100 deliveries.

—We should avoid with the utmost care, and use our utmost endeavors to remove, sickness from the body, ignorance from the mind, predominance from the appetite discord from our families and excess from all things.

—Mr. J. Pierpont Morgan has contributed $1,000,000 for the erection of a new building for the New York Lying-in Hospital, on condition that sufficient money is raised to carry on the work of the hospital in accord with its enlarged facilities.

—A German statistician has calculated that of every 1,000 persons 100 reach the age of seventy-five, thirty-eight the age of eighty-five, and only two reached ninety-five. In the seventeenth century, the average duration of life was only thirteen years; in the eighteenth, twenty; of this century it is thirty-six.

—As a result of an examination of several liquid extracts of malt on the market, Edgar L. Patch, of Boston, says that not one of these had a particle of diastasic power. They contained from 3 to 10 per cent. of alcohol, but it is not reasonable to believe that they are of any more value than pure beer, or some preparation of extract of malt and alcohol.

—An English court has recently decided that an American physician with a genuine diploma from a recognized medical school is at liberty to practice medicine in Great Britain, but must not assume any titles implying that he is a registered British practitioner. The case was that of an American, who appended to his name the letters, "M.D., U. S. A."

—A well-known medico, it is related, was walking home late one night, when he was accosted by a footpad. "Gimme your money," said the thief. As quick as thought the doctor turned, and in an offended tone said: "What are you doing over here? Go on the other side of the street. I am working this side myself." With a muttered apology for his breach of etiquette, the would-be robber vanished in the darkness.

—Sir Astley Cooper had been attending in his capacity of surgeon a West Indian millionaire, named Hyatt, with Drs. Lettsom and Nelson as physicians. The treatment was most successful, and in his joy Hyatt bestowed 300 guineas on each of the doctors. "But you," exclaimed the grateful patient, addressing Sir Astley, "you shall have something better." With this he flung his nightcap at the eminent operator. "Sir," replied the latter, "I'll pocket the affront." And he slipped the "affront" into his pocket. It contained a draft for 1,000 guineas.

—From the *Druggists' Circular's* report of the Pan-American Medical Congress, we learn that in Mexico lovely bouquets can be obtained of roses, pinks and camelias, which have been preserved by dipping them repeatedly in melted paraffin at 30° C. Their delicacy and colors are said to be retained in perfection for the space of about eight days, during which time they may be freely used for decoration, provided they are subjected to no rough handling. At this time they begin to fade and droop, and at the end of fifteen days are completely lost.

—A special feature in the year's German manœuvers, says the *British Medical Journal*, will be supplied by war dogs, which have been most admirably named, for seeking the wounded and carrying dispatches. At the command, "Seek," accompanied by a gesture indicating the direction in which the dogs are to search, they will start off. They will find the men who figure as wounded with unfailing certainty, take a piece of their clothing—cap, helmet or piece of cloth torn off—and bring this back to the ambulance men, whom they then conduct to the spot.

—The most coveted token of royal recognition has at length been bestowed upon the British champion of antisepsis. On the other hand, William T.G. Morton—no less a benefactor of his race than Lord Lister, and with equal claims as an original discoverer—passed away unrewarded by his own countrymen, jealousy and detraction dogging him to the last. For this we cannot now atone, but should not his memory at least be ennobled by the erection of a fitting national monument? Surely, the American hero of anæsthesia deserves as much honor from our whole profession as does the German medical reformer from a part of it.

—Suicide has come to be about as common among Russian physicians as duels in German universities. The *Lancet* explains the epidemic by the statement that fees are tragically low, because of the presence everywhere of heavily endowed dispensaries. But the same is the case throughout a large portion of London itself, where, nevertheless, we do not hear that doctors are particularly given to self-murder. A certain fully-qualified medical man, who passed his examination with brilliancy, is settled in one of the poorest districts of the metropolis, and outside his surgery is painted, in bold Roman letters, "Advice and Medicine, 4½ *d.*, Superior Ditto, 6*d.*"

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.*

By James Robie Wood, M. D., New York.

Identica—Similia—Contraria.
By these signs we will conquer.

UNJUST skepticism is an unconscious ally of ignorant superstition. Unreasonable doubt expressed by prominent leaders of thought may prove more fatal to the development of new truths than the blind faith of ignorance.

Distinguished doubters often paralyze inquiry, especially among a large class of highly respectable and well educated persons, who, having mastered the statute books of knowledge, case-harden their brains against the invasion of thoughts that have not the seal and sanction of authority.

Without some court of appeal, irresponsible fanaticism would run riot with science, therefore it is a sacred duty to respect and strengthen those in authority, but no one is conscience bound to bend in abject submission to the whims and prejudices of every scientific body, especially as they are not of divine appointment.

It is not always wise to disregard little things; the despised of yesterday is honored to-day, and what seems foolishness to-day may be considered the essence of wisdom to-morrow. Let all take warning by the errors of the highest courts of science.

In 1805 the derisive laughter of the Academy of France caused even that human tornado, Napoleon Bonaparte, to feel humiliated at the thought of the possible ignorance of his question, when he asked that august assembly of learning and wisdom to consider the feasibility of applying steam to navigation, as had been proposed by Fulton. Yet steam moves ships of war to-day, and locomotives whistle, as it were, in mockery as they pass the graves of those doubting academicians. The French Academy also declared that the lighting of buildings by gas was an impossibility, and when Arago spoke of the electric telegraph, the same body greeted with contemptuous laughter what they considered Utopian nonsense. Early in this century the learned of another kingdom fastened humbug to the character, while idle boys pinned phrases of ridicule to the coat tails of Lux and his friends because they dared to assert that there existed in many diseases, especially those of a contagious nature, an inherent principle of curative value, when properly isolated and applied to the self-same disease. I have in my possession quaint old vials containing phthisin, scarletinin, hydrophobin, etc., prepared by the despised and misunderstood isopaths. To-day we are unconsciously honoring the memory of these martyrs of science, by proclaiming confidence in the antitoxins which, with the crude appliances of nearly a century ago, they endeavored to develop.

The danger of individual supremacy enslaving even the learned and deifying eminent teachers, is well shown by the influence of that broad and liberal leader among the fathers of medicine, Claudius Galen. A little more than 1,700 years ago, finding the medical profession divided into various sects, he refused to join any of their parties. He particularly despised those who slavishly hung their faith upon any one master. Yet his wonderful ability made him an obstacle, for many generations, to medical progress.

The worshipful regard in which Galen was held, enslaved medical men for centuries. It was considered almost criminal to differ from him.

Indeed, it is doubtful if medicine was released from his influence until there appeared a remarkable person who was born simultaneously with the discovery of America.

He was a boisterous but brainy man, "full of fight," and in command of battalions of reasons "for the faith that was in him." He had a deadly hatred for the schools of his time. It was probably his contempt for the opinions of his professors at Basel that lost for Paracelsus his medical degree. "Whatever I know," he said, "I have learned by my experience, and I therefore depend upon my own knowledge and not upon the ignorance of another." This violent antagonism to those physicians and apothecaries who considered it infamous to doubt the correctness of ancient theories, brought down upon him their maledictions; hence we find him described as a drunken vagabond, a noisy, pompous braggart, full of conceit and insincerity.

It is probable that this was an unjust exaggeration of his faults.

His was that strong intelligence sometimes seen—a remarkable intuition "that leaves dull learning lagging far behind," combined with close observation, quick perception and tireless industry, stimulated by a constant hunger and thirst for curious and useful knowledge.

For many years he led the life of a medical tramp, in order to interrogate the diseases of different nations and watch their changing aspects, due to peculiarities of climate, occupation, national habits and passions, as well as the influences of luxury, hardship, and squalor. At the same time he asked the mineral and vegetable kingdoms for means to alleviate human suffering. "The Book of Nature" he said, "is that which the physician must read, and to do so he must walk over the leaves." His wanderings among the Tartars, and doubtless the Hindoos, unfortunately added magic to his armamentarium; but future generations may learn to select the sound material and build a system upon what appears to our minds a mysterious superstition. While his use of mercury, antimony, opium, etc., has influenced the profession to the present day, some of his teachings, if not altogether ignored, have been practiced only by imaginative persons. The use of animal magnetism he probably acquired while sojourning among the Asiatics. In all probability Paracelsus will in the future exer-

*Read before "The Society of Medical Progress," February 13th, 1897.

cise an entirely different influence than he has up to the present. This view will be developed under general therapeutics at some future time in a separate paper.

Guided by records of the past, I have, for many years, tried to anticipate our medical future.

Although of great disadvantage to me financially, yet it has yielded me much pleasure. Knowing what the older isopaths had done, I was led to imitate them twenty-two years ago, during the winter of 1875, at which time I inoculated living animals with disease, and from their blood and tissues prepared a serum and injected it into patients suffering from the same disease. At intervals covering a space of some years I instituted similar experiments with several diseases. During all that time, two only were markedly benefited by the treatment—one suffering from pulmonary tubercle and the other from cancer. The latter was only temporarily relieved, and the former passed from observation. Those studies and experiments, although unsatisfactory, gradually compelled an inquiry into the probable therapies of the future, both as to the serotherapies, and also general therapeutics.

To-night I shall speak only of what, in my belief, will be one of the sero-therapies of the coming century. Then, if my treatment of the subject is worth your consideration, I may at some other time attempt to speak of other probable serotherapies and of the remedies in general which may increase the records of our therapeutic future.

In times to come the demands for marvels of healing will loudly resound over many ancient cemeteries of buried medical ideas. Neglected graves will yawn and give up their dead, and when we view the almost endless procession of the resurrected suggestions of forgotten men, verily we shall have reason to exclaim: "Venerable men, you have come down to us from a former generation."

Before addressing myself to the probable, let me first try to say what is necessary on our part to make our medical future a happiness to ourselves and a blessing to those who come after us.

In the first place, I make this earnest plea, that all sincere physicians give and demand liberty of conscience and always exercise true charity.

"There are but two things," says Burke, "to which we can hold—truth and charity; as it is not always easy to know the truth, let us at least hold to charity." But, I may add, if we are *sure* of truth we cannot sacrifice it to charity. First, let us strive to make our medical societies what they should be: just to enemies, generous to the timid in their struggle for recognition, and always willing to render to others all the honor that is their due.

In order to fulfill their mission as preservers and promotors of thought and ideas, learned associations of scientific men should never permit their ranks to become fossilized by narrow men, who dwarf the intellects of their associates into mere arrogant conservators of a stiff and stately conservatism, a sort of community of colonial dames who draw their skirts away from the contaminating touch of the blood of Poor Richard, whose wisdom helped to harness the lightning. As chosen lapidaries of thoughts and ideas, it is the duty of scientific bodies to gather, from the lower strata of human minds, great truths, unfashioned and uncouth as rough diamonds, and so cut and polish them that the mass of mankind may know their worth.

I believe there exists an unwritten law which should be a matter of pride to its members, that physicians, no matter how obscure, may present any probable theory before this association, feeling assured that, even if not in accord with the sentiments expressed, "The Society of Medical Progress" will meet them with a just and generous antagonism.

Here a home for medical freedom of thought, within proper limits, may be found; here no old or new idea will be scorned unheard, and kind consideration will be granted even to those whose stock in trade consists of but one idea. I understand that your only intolerance is towards those who willfully turn their backs upon the light because their grandmothers did, whose very swaddling clothes of infancy were hemmed with prejudice. Such men are apt to "look for the sun in the heels of their boots."

Let the aim of its members, individually and collectively, be to make this society true to its motto, "*progress*," and be a real propaganda of medical faith. Capture ideas whenever and wherever you find them, however contemptible the source, be it from ignorant savages or cunning charlatans.

Bear in mind the old General's forcible words: "Why are you spiking your enemy's superior guns, Colonel?"

"Because, sir, it is a good rule of war to follow when there are not horses enough to take the captured battery from the field. Besides, we love our old guns."

To this the General fiercely replied: "The best rules of war in the hands of damned fools who know not how to take advantage of proper exceptions would send our armies to perdition. If the devil's guns are better than yours spike your inferior cannon and give him hell with his own artillery!"

For centuries medical men have frequently found their enemies' guns better than their own and have tried to spike them, instead of wisely using them and throwing away their blunders and worn out or exploded theories.

When Peruvian bark, which the simple natives of South America had long successfully used, was carried to Europe by the Jesuits, the bitter animosity of physicians in authority to this precious drug consigned it to mercenary charlatans until the confidence of the people compelled its general use. Within the memory of many, hydrotherapy was treated as little more than quackery.

In proportion to our opportunities are we any better to-day? Valuable drugs have been ignored in our time because charlatans or despised schools used them.

An extensive and masterly contribution to the materia medica was published in several numbers of a German medical journal during 1854—where-

in a full and accurate description of the effects of nitro-glycerine upon the healthy, and indications for its use in disease was minutely given. Although this invaluable medicament was carefully studied long before 1854, and the results of those studies given to the world forty-three years ago, yet it is but little more than one decade since shrewd minds, taking advantage of medical prejudices, which are so potent in shutting out the light, won laurels which belonged to another's brow. Let us examine our conscience and ask whose fault it is that so many in our day mistake other people's brains for their own, and rush with their therapeutic burglaries to the daily press, and there these men with medical diplomas and commercial consciences get extensive recognition and abundant lucre, not only from the people, but even from some respectable physicians, who in gaping wonder read and believe.

I have hesitated thus long on the verge of my subject, thoroughly dreading the plunge.

It was not until after this paper was promised that I became conscious of the magnitude of the undertaking and the vastness of my presumption. Possibly you may conclude when the last word of this article has been uttered that, after all, it is but a mountain laboring to bring forth a mouse, but kindly remember that little things sometimes release great things from the toils of prejudice; a mouse may knaw the meshes which entangle a lion.

The present idea of curing diseases by the use of serum containing some mysterious and unknown principle taken from identical diseases may attain a high and satisfactory development, but I am inclined to the belief that its curative power will be restricted to a few contagious maladies. Meanwhile a surer and safer serum of wide application will enter the therapeutic field with the incoming century.

It will be an offspring of an ancient father of blessed and honorable memory, who has brilliantly won many hard fought battles against tremendous odds for a hundred years. This child of well-earned nobility will, like "great Chatham's greater son," be a pride and glory to its father. To the faithful workers in the field of serum-therapy, the development of this great truth will yield splendid rewards. It may be severe in its exactions, requiring infinitely more painstaking research to secure the similitudes required than is necessary in our present system of seeking identities. It may demand the labor of centuries, and even compel the establishment of homes where communities of a priesthood of medicine may live and labor solely for the physical good of men, as others have done for their spiritual welfare.

What is this curative serum?

During the next century there will be developed many delicate shades in the division of all therapies; for their force and direction much will depend upon the mental and moral condition of our educators; but of this later. There will arise in the near future three great divisions of serotherapy; to the one to which I have alluded my remarks will be confined. Many subdivisions may also appear, but to speak of these would at the present time be mere conjecture, while of the major divisions we may prophesy their coming with a fair degree of certainty.

The first division we already know in the present system of *identity*. As seen in diphtheritic antitoxin, its subdivisions may be many.

The second division is the one to which I shall presently call your attention—that of *similarity*.

The third which I shall try to consider at some future time is the sero-therapy of *antagonism*.

This trinity, *identity*, *similarity* and *antagonism*. will inevitably sway the intelligence of the medical world during the twentieth century.

These three mighty allies will more successfully combat disease than has ever before been done in the medical history of mankind.

Each and all have had the reverent regard of the lowly of many nations in all ages. Physicians must humbly acknowledge their indebtedness to the simple people; for until our modern chemists gave to the world the products of their laboratories, a large part of our materia medica came from the homes of the humble, the wigwam and hut of the savage tribes, and from the observing minds of those estimable persons whose loving hearts carried them to the bedside of the sick, in places where no other medical aid could be summoned.

As we all are conversant with the serum of *identity*, I shall proceed at once to a consideration of that of *similarity*.

The illustrious progenitor of the coming, and most valuable, of all serum therapies, *was that great truth wrested from obscurity by the immortal Jenner;* he found a knowlege of it confined almost entirely to the poor. In the use of vaccine we have a most beautiful example of similarity. Cowpox cannot, by any means, be cultivated into a smallpox, nor can the reverse be done. Its great power depends upon, or rather is indicated by, the remarkable similarity of its pustules. Had it not been that the dazzling brightness of his discovery so obscured his mental sight, Jenner might have constructed a general law. He came very near to this when he noticed the influence of herpes.

He said: "I am convinced that the great impediment to vaccination is herpes." In another place he writes: "I have detected a case of smallpox after smallpox inoculation, when the cause of failure was evidently an herpetic affection of the scalp."

Again he says: "A single (herpetic) vesicle is capable of deranging the action of the vaccine pustule. Subdue it, and all goes on correctly." Here we see where one disease bearing only a slight resemblance to another interferes with its full development. Now, if diseases *closely simulating* others are found, is it not reasonable to expect results in proportion to that similarity? Future students of medicine will assuredly find and apply such similitudes and doubtless beneficial results will follow. But we must understand where and how to look for the evident as well as the finer similiarities. This I shall endeavor to consider at some later date.

Future generations will wonder why those who

represent the medical mind of this century were so invincibly ignorant of a truth whose echoes have reverberated down so many centuries, sometimes faint as a whisper and sometimes loud enough to be heard around the world, had not a scoffing prejudice made men deaf.

To-day the medical ear is eager to catch the first cry of a new-born thought. The whole medical world is expecting at each click of the telegraph to be told of some new wonder or great hope and blessing for the suffering sick.

Even chance has been a willing and helpful handmaid to the sincere scientist. Had chance not left the sensitized plate directly beneath that historic "Crookes tube," Roentgen's name might not have been a household word all over the civilized world to-day.

But a few years ago, if told that man would be able to send unseen rays through opaque objects, the learned professor might have said such an absurdity is not worth inquiry. Chance will not forget the sincere physician if he is faithful to himself.

Soon I may be able to give more minute suggestions of the manner and means of cultivating this new field of sero-therapy, so that younger and better men may seek and find rich treasures, while we who have been exhausted by failures may never reach the promised land.

The future depends upon those physicians who do not wait for others to decide what manner of medical garment they shall put on.

Let us be watchful that men do not deify the crucible, the test tube and the microscope; however helpful they may be, they are not all. There are eternal principles which must be consistently kept before our minds.

The materialism of the day must give way to sounder and more perfect philosophy, in which correct reasoning upon facts will give true and far-reaching conclusions.

While we must do all in our power to seek the heretofore invisible, and find if possible an endless line of causes, yet we should have a care lest in magnifying the material microbe we minimize the intellectual man.

SUPPURATIVE NEPHRITIS.

By Gove S. Harrington, M. D., New York.

FEW subjects in pathology have caused as much discussion as has the inflammations of the kidney. Not only the pathologists disagree in their conclusions, but, likewise, the clinicians. A partial explanation for this exists in the fact that, in making a pathological diagnosis, little importance can be given the clinical form of the disease or its etiology; since one and the same cause can produce entirely different renal changes, and widely different kidney lesions may produce similar clinical manifestations. Furthermore, a satisfactory division, from a purely histological standpoint, is extremely difficult, since the imflammatory diseases of the kidney present an unusually changeable picture, and, no matter what divisions are made, we will meet with cases presenting transitions and mixtures of the chosen divisions.

The least confusing of these inflammations is the purulent or suppurative nephritis, which may be divided into two classes, the first of which being the metastatic nephritis. This disease is caused by septic micro-organisms brought there by the blood current, and is characterized by the development of minute metastatic abscesses. These are chiefly located in the cortex, where they appear as small pin-head sized yellowish nodules which are surrounded by a hyperæmic zone, and are frequently grouped together. They however, also occur in the medullary portions of the kidney, but here the foci, instead of being round, are oblong, and often several of them are situated one above the other. As a rule, punctate hemorrhages, especially under the capsule, are also present.

The cortical foci are generally easily recognized as embolic; since in their center is usually to be seen an occluded glomerulus or other vessel around which the pus corpuscles are collected; chiefly between the uriniferous tubules, but may also be found in Bowman's capsule and within the lumen of the tubules. These emboli consist almost wholly of micrococci, which not only completely fill the vessels, but in many instances have enlarged them. With the development of the abscess later on, the tubules and stroma are destroyed, and the bacteria are less clearly recognizable. They are, however, to be found in the outer portions of the inflammatory areas, in the hemorrhagic spots, and, indeed, in portions presenting no other pathological change. This latter fact seems to prove that the bacteria are present previous to the pus corpuscles. Arterial emboli are frequently found near by, and produce anæmic necrotic infarcts varying in size, and surrounded by a hyperæmic zone. At first they are similar in appearance to the infarcts caused by aseptic thrombi, but later they develop into abscesses which contain pus mixed with kidney substance. A large abscess may be formed by the confluence of a number of small ones, but this rarely occurs.

The medullary foci are oblong, corresponding to the course of the urinary tubules and microscopically show more clearly than the cortical ones the three zones of the lesion. Centrally, there is an oblong collection of bacteria, then a layer of necrotic fatty degenerated tissue without nuclear staining, and, lastly, an outermost zone infiltrated with pus. Embolic foci are met with, in which the bacteria seem to be located within the vessels, but, usually, the size of the occluded canal and the presence of hyaline casts and epithelium prove that the bacteria are located in the uriniferous tubule. This is especially true when the foci are in the middle and papillary portions of the pyramids. These foci occur chiefly in the loops of Henle and the papillary ducts. These medullary foci are evidently secondary, and are produced by bacteria which have escaped from the glomerulus into the uriniferous tubule. In rare cases the collections of bacteria are found in the papillæ. They then form true

bacterial infarcts, and appear as brownish streaks. When the metastatic abscesses occur in the pyramids the pus corpuscles are to be found in the interstitial tissue, as well as in the uriniferous tubules.

The presence of embolic cortical foci presuppose a septic thrombus at some other point, especially on the valves in ulcerative endocarditis. But we may have in septic wounds puerperal sepsis, erysipelas, etc., a metastatic medullar nephritis, not only without cortical foci, but also, without septic thrombi. It may, in fact, be the only metastatic lesion, and forces the conclusion that there must have been an excretion of the micro-organisms without producing these more marked lesions. Metastatic nephritis is almost invariably bilateral.

The second disease to be considered under suppurative nephritis is pyelonephritis, and it attacks more frequently only one kidney, or at least is more developed in one than in the other. This disease is almost always associated with urethritis, cystitis or croupous inflammations of the bladder, and originates from the extension through the ureters of micro-organisms which have developed in the bladder.

The urine in such cases is frequently alkaline, and forms a good medium for the growth of bacteria. These micro-organisms are frequently introduced into the urethra or bladder from the external world by means of dirty sounds, catheters, etc.

Accordingly the lesions first affect the pyramids, and consist of small yellowish streaks. These extend from the papillæ, and following the course of the uriniferous tubules finally reach the cortex. It was precisely in this disease, which proceeds from the pelvis to the cortex, producing such marked changes in the mucous membrane, that Klebs first demonstrated the constant presence of the lower organisms.

On the surface of the papillæ is frequently to be seen a tenacious gray necrotic membrane, which is often designated as a diphtheria of the papillæ. In rare instances the entire papilla consists of a greenish gray or yellowish necrotic mass.

Soon after the papillæ are affected the cortex also becomes involved and abscesses are developed. On the surface of the kidney these abscesses appear as small milliary yellowish foci, and they are more frequently grouped together than those of embolic origin. On cross section these abscesses may be traced through the entire cortex to the medulla, but it is not always possible to demonstrate a complete continuity between the lesions in the cortex and those in the medulla. Frequently, the entire section of the kidney which is occupied by a group of these abscesses softens and becomes necrotic. These foci, like those of embolic origin, do not develop into simple abscesses, but the pus is mixed with broken down epithelium and kidney substance. In fact, an abscess is frequently not developed, there being present only the necrosis and the purulent infiltration. When large abscesses have formed in the kidney they may rupture into the pelvis, at which point a suppurating ulcer may develop. The microscopical appearance of these little foci is very similar to those of metastatic origin. They differ, however, since the former frequently contain bacilli, among which the bacteria coli comme may be found.

A purulent pyelonephritis may be caused by the presence of renal calculi in the pelvis of the kidney or by the development of a hydronephrosis. In the latter case the pyelonephritis may become a pyonephrosis. Purulent nephritis may also be caused by the extension of a suppurative process located in adjacent structures or occasionally by traumatism. But in these cases the calculus, the hydronephrosis, and the traumatism furnish only the opportunity for the development of the suppurative condition, its real cause being the presence of micro-organisms.

In chronic purulent nephritis the abscesses are surrounded by indurated tissue and may have an alveolar arrangement. The pus is encapsulated and may have undergone fatty degeneration or calcification. These abscesses occur in both cortex and medulla.

SOME THOUGHTS ON THE TREATMENT OF DIABETES MELLITUS.

By C. F. Wahrer, M. D., Fort Madison, Ia.

PATHOLOGY and rational therapeutics have progressed rapidly during the past quarter century, and we are to be congratulated that we live in this progressive age of investigation. Histology and bacteriology have contributed much to the pursuit of what we may call the Algebra of Medicine, the generalization of medical thought, from which special inquiry alone can arise.

Pathology teaches us what tissues are diseased, how and why certain lesions arise and their sequelæ, and gives us an insight into the etiology of the disease, furnishing us indications for treatment, and this knowledge, coupled with a knowledge of the physiological action of drugs, furnishes us with rational therapeutics, which can be rational only when the pathology of the malady is known.

But when a remedy is administered without such knowledge, then that remedy is given empirically, no matter how well educated the doctor may be who administers it. He either tries the remedy, or takes for granted the experiments of others. This is empiricism, the very opposite of rational treatment. Were all remedies administered thus medicine would cease to be a science, and the old women with their treasured recipes, and the officious neighbor, would know just as well "what is good for a disease" as the most learned student of medicine. But a remedy may rank almost with rationally therapeutic agents when empirically administered, if it gives almost invariably good results, many of which instances occur in every practitioner's experience. But when the pathology is obscure, and the proposed remedies almost always followed by disaster, then we have empiricism pure and

simple, or routine treatment, if possible still worse.

Such an instance I now wish to cite in the treatment, medical and dietetic, of the disorder known as diabetes mellitus.

To say that we are entirely ignorant of its pathology is wide of the truth, but to say that its pathology, and hence its treatment, is obscure and very imperfectly understood, is too sadly true.

So far our chief consolation lies in the fact that in this country it is rather rare, and yet it occurs often enough to worry almost every practitioner several times in his career, and usually brings only disaster and disappointment to him as well as his patient.

Experiments have taught us that punctures in the floor of the fourth ventricle have produced it artificially. So, also, tumors in or near that ventricle would produce similar results, as Riess has shown us post mortem in the case of a woman. So also injuries to this portion of the brain, or to the nerve supply, or origin of the same, may also cause the disease. So also puncture of the medulla in Bernard's diabetic center, or injury of any other kind in the same region—as well as severing the spinal cord through its anterior columns in the region of the fourth cervical vertebra, as Schiff has shown us, or paralysis in that region—also produce the disease. Poisoning by woorara or curara, and perhaps other drugs, will cause it. There is the form known as conjugal diabetes, where husband and wife both have the disease, depending probably upon some intricate sympathetic nervous influence, or rather upon a cause operating in common upon both of them. We also observe that grief, worry, anxiety and pain have seemed causative of the malady; we also have the alternating form, where it alternates with some other disease, such as uræmia, gout or albuminuria, and again the lipogenic form, where corpulent people have attacks of it, often proving fatal. Also, where we have disease of the pancreas, in which it proves rapidly fatal, especially in the young. We have also the hepatogenous variety, depending upon liver disorders, also inositic diabetes, where the product is inosite instead of sugar.

The various traumatic diabetes due to injuries to certain portions of the brain and cord or to nerves originating in or leading to these portions of the brain, all these give us some insight into this abstruse and terrible disease. But why sugar in all these cases forms and leaks out with the urine and other excretions, causing in most cases an augmented flow of urine, is still a mystery. That such is the case, we know, and we have learned by empiric therapeutics that certain drugs—as the opiates, ergot, bromides, arsenic, antipyrin, jambul and pancreatin—combined with a rigid diet, prohibiting all starchy and sugary articles of food, often modify, or for a time cause entirely to disappear, the amount of sugar voided in the urine, and hence we reason, that not as much is manufactured, and not as much is lost in the urine and is hence retained in the economy. This form of reasoning has become routine work, a simple acquaintance with empiric methods, all of which has so far resulted sooner or later in the death of the patient. Let us look more closely at the results of such treatment.

In rigidly dieting our patients we observe they soon become disgusted with what we feed them; first, because of the sameness and unpalatableness of the food, and secondly, on account of the craving for what is forbidden, thus resulting in a weakening additionally to the naturally debilitating influences of the disease, a disturbance of metabolism, producing a katabolism. Again, the drugs I named above usually cause, if persisted in, disturbances of digestion resulting in constipation, to which the patient naturally is prone, and all sorts of alimentary disorders, notwithstanding the combination of these remedies with tonics, chalybeates, laxatives, and nerve tonics, followed by occasional periods of improvement in the course of the malady. When we have these intermissions of euthanasia, a reduction in the amount of sugar voided, we fancy the treatment is successful, and we persist in drugging and dieting accordingly, only to be disappointed by a renewed onslaught of the enemy.

I shall not speak of the gluten biscuit, soga bread, anti-diabetic flour or the use of glycerine, saccharin as substitute of sugar for sweetening purposes, and many other empirical fancies, because when you read the works of Pavy, Cautani, Schnee, Sandsby, Purdy and others, you only read the same story retold—namely, your patient dies, as a rule with his disease.

True enough, if the patient is an elderly lady or gentleman of a philosophic and reflective temperament or disposition, willing to always make the best of come what will, you can diet such people with anything from soga bread down to hay—they will eat it, and thrive on it until old age comes to your rescue and carries them off just despite the disease.

Such patients are rare. The majority, and especially the young, chafe under an anti-diabetic diet; they starve on it, and die all the sooner for being rigidly dieted.

On the other hand, we seem somewhat warranted by the superficial appearances to enforce the diet and give the usual remedies that produce a diminution of sugar. Why?

Because the glycœmia is an intoxicant, and Bernard tells us that three parts per 1,000, and Pavy five parts per 1,000 of sugar, in the blood is not tolerated, and is of sufficient toxicity to produce pathological changes, while one part per thousand is tolerated without any ill effects. The presence of an undue percentage of sugar produces a dehydration of the tissues, hence the polyuria, the dryness of the bowels, thirst, dryness of skin and breath these patients suffer from, and this dehydration of the tissues, the purpose of which seems to be to eliminate the toxic agent, a dehydration similar to that of Asiatic cholera, deranges the assimilation, and is productive of the nervous disturbances, such as coma, the last sad act in the tragedy.

I say, then, we seem warranted to diet and drug as we do, to control as much as possible the glycœmia, but I say we seem, only—we do not

get at the pathological source that wants to produce the sugar in such quantity as to prove toxic to the economy. There is the rub, and I will leave it to you now to think about. The good I wish to accomplish is simply this: I want to stand up before this learned body of Iowa physicians and say the next diabetic patient you have, be humane to him. Do not cut off all his earthly enjoyments by compelling him to eat what no human being can eat, when well even, and take away from him the only thing he would crave.

Remember the sad lesson we learned from our forefathers, who starved fevers, and forbade even a drink of water to stay the ravages of the conflagration within. Give expectant and symptomatic treatment alone, and be governed by good sense when you are in doubt what to do. Give such drugs only as agree with your patient, relieve his thirst with water and acidulated drinks, his constipation with enemata and only the mildest of laxatives, and when his appetite flags let him eat what he craves, even though it be sugar.

You will not do any harm; you will not shorten his life one day, and if so, what is the difference? Some day, it is to be hoped soon, we shall see more clearly, and maybe some day, God grant it, a member of this assembly will find out the rational treatment of this malady. Like of Graves, whose epitaph was "He fed fevers," his will be: "Here lies one who did not starve diabetics."

A CASE IN GALL BLADDER SURGERY.*

By William C. Dugan, Louisville, Ky.

Professor of the Principles and Practice of Surgery and Surgical Pathology in the Louisville Medical College, etc.

I HAVE a patient under observation at the present time who has given me a great deal of anxiety; there are several features about the case that are rather peculiar. The patient is a woman, aged about forty-two, who has been sick for seventeen years, having jaundice more or less marked most of the time. For the last year she has been profoundly jaundiced all the time, with occasional attacks of hepatic colic. Of course the jaundice made it positive that there was obstruction existing either in the hepatic or the common bile duct, and since there was no enlargement of the gall bladder, made it fair to conclude that the obstruction was in the hepatic duct. The liver was very much enlarged when operated upon.

When operated upon, we made the usual incision over the region of the gall bladder, which, when exposed, was found to be contracted to about the size of my thumb and full of fluid. On examination of the ducts a stone was detected in the hepatic high up, another in the common, low down. The one in the common duct was removed, and found to be very peculiar; it was not the usual stone that we find in the ducts of the gall bladder, but was rather irregular in shape; it was so thoroughly incorporated in the duct that it was removed with considerable difficulty. We then went up and attempted to remove the stone from the hepatic duct, which was situated at about the junction of the two primary hepatic ducts. Upon incising the duct and removing the stone there was quite a free flow of bile. We then sutured both ducts, and stitched the gall bladder to the parietal peritoneum. The bladder was then opened and a glass tube introduced into the bottom of the bladder for drainage, the wound closed and dressing applied. The next morning the dressing was saturated with bile, as was also the cotton, of which a liberal amount had been used; the clothing of the patient was also soaked with bile. I am quite sure that one and a half to two pints of bile discharged in this length of time, and has continued to discharge in large quantities since. She had general peritonitis of the plastic variety at the time of the operation. The dressings are changed every day. Operation was performed three weeks ago. Bile continues to discharge to the extent I believe of a half a pint a day, saturating the dressings. The jaundice has cleared up rapidly.

I examined the gall bladder at the time of the operation and could detect no further stones; notwithstanding this she has been passing small calculi of the faceted variety through the fistulous opening, showing that they have been imprisoned somewhere, I take it in the liver. She has now discharged out through the fistula eight or nine stones. She has improved wonderfully in general health, and is still doing nicely.

I report the case mainly to emphasize the point that one stone was successfully removed from the hepatic and common duct. While some have been disposed to question the location of the stone found in the hepatic duct there can be no doubt that it was there. Jaundice proved that there was obstruction of the hepatic or common duct. The gall bladder was contracted, the liver was congested and enlarged to almost double its size. If the obstruction had existed elsewhere and not in the hepatic duct, the gall bladder, instead of being contracted, would have been greatly distended. Furthermore, when I incised the hepatic duct there was a flow of bile. While the origin of these stones is not clear, it seems to me that they originated in the liver. Those that have been discharged through the fistulous opening are rather smaller than the average gall bladder calculus, and they have evidently passed through the hepatic duct, then through the cystic duct, thence out through the fistulous opening. I am positive that there were no stones in the gall bladder proper at the time of the operation, for we examined it closely. We had but little trouble in removing the stone and closing the wound in the common duct, but owing to the narrow space we had to work in, and the close proximity to the large hepatic vessels, we found the operation was a most tedious one, but with a good assistant and great care it can be done, as has been demonstrated by Thornton and others.

Thornton, in his work on gall bladder surgery, calls attention to the points Dr. Wathen quotes

* Reported to the Louisville Clinical Society.

from Fenger in regard to the fear of bile entering the peritoneal cavity. It has been suggested where there is empyema of the gall bladder that the bile be allowed to flow into the peritoneal cavity, then drained off from below. Thornton goes so far as to recommend putting a tube into Douglas' pouch to draw off this fluid when the duct has not been completely closed.

In the case reported, I neglected to state that before opening the gall bladder, I took a piece of iodoform gauze and placed it over the incisions, both in the hepatic and common ducts, so as to prevent the escape of bile into the peritoneal cavity should there be leakage, but there was escape of bile. The hepatic duct was sutured with great difficulty, as the sutures had to be applied in a very narrow space between the liver and the stomach, and it was only by the able assistance of Dr. Boyd that I was able to apply the sutures at all. We opened the common duct first and removed the stone, then sutured this duct, but no bile escaped. We could easily determine the location of the second stone by the use of the probe, introduced from below. We could pass the probe into the cystic or hepatic duct. Dr. Boyd first called my attention to the probe in the cystic duct. I introduced the probe from below, but could not find the high stone, so we decided we had gone into the cystic duct, then by withdrawing and changing the direction, we were able to get into the hepatic duct, striking the stone, thus demonstrating absolutely the correctness of the position that it is possible to enter the hepatic duct from the common duct below.

SUBSEQUENT REPORT.

She had been vomiting for several weeks prior to operation. She had about gotten over this, and had gained much flesh and strength, and had almost completely cleared up her jaundice. About the end of the week she did not appear so well and again began vomiting. Her stomach was rested. Rectal feeding was practiced satisfactorily for a while, but finally she would not retain the food, and when the food was thus introduced it would soon undergo fermentation and be passed off with much fetid gas. She vomited often, and it could be seen that she was going down. Her skin remained clear, and the wound was about well, but in six weeks after the operation she died exhausted. Surgically speaking she was well, and the operation of removal from the hepatic duct and its immediate closure a success.

OCCIPITO-POSTERIOR POSITIONS AND THEIR MANAGEMENT.

By E. T. Glass, M.D., Birmingham, Ala.

IN selecting this subject I had no thought of putting forth any new ideas, but with the hope of eliciting a full discussion on the subject.

The frequency of cephalic presentations of all cases at full term is estimated at about 97 per cent. Still births and premature deliveries greatly decrease the percentages of head presentations. Churchill found that at seven months only 80 per cent. were head presentations. The relative frequency of anterior and posterior cephalic presentations differ greatly among observers, probably on account of the different stages of labor at which the diagnosis is made. In a large number of cases in which the occiput is to the right and some anterior at the beginning of labor, the position becomes right posterior as soon as engagement, and again a large majority of right posterior positions become right anterior by rotation in the second stage of labor.

In the right occipito-posterior the head enters the brim of the pelvis in the right oblique diameter, with the forehead to the left ilio-pectoneal eminence, the occiput to the right sacro-iliac-synchondrosis. On digital examination, the finger touches the left parietal bone near its protuberance, at a point usually a little anterior to that reached in second occipito-anterior positions. With reference to the posture of the woman, the sagittal suture is traced downward and forward, terminating in the anterior fontanelle, while in the contrary direction it may be followed upward and backward, ending in the posterior fontanelle. This point is of great importance in diagnosis, for when in any case we find that the great fontanelle is in easy reach of the examining finger, our suspicion should be at once excited and the nature of the position carefully ascertained.

Now, in this position, in a normal pelvis, the accomplishment or non-accomplishment of labor by normal rotation depends altogether on the amount of flexion. In well flexed cases the occiput descends rapidly, while the sinciput is delayed by pressure of the anterior pelvic wall, and makes but little progress. The occiput now lies between the sacrum and right ischium, in the hollow made by the recession of the elastic sacro-sciatic ligament, while the sinciput is pressed against the smooth surface of the upper part of the anterior portion of the lateral wall on the left side. As descent progresses the occiput follows the posterior grooves forward under pressure of the unyielding bony edge of the sacrum, which presses against the posterior surface. This is unopposed by the sinciput, which in well flexed heads is so high up in the pelvis that it is free to turn backward over the smooth bony surface of the upper portion of the lateral wall. Rotation usually progresses smoothly and rapidly until the occiput reaches the point where the anterior and posterior grooves of the right side join, and thus become right occipito-anterior position, and is delivered as such.

The expulsion of the head in a persistent occipito-posterior position by natural force or forceps is possible, but less favorable than when the occiput rotates forward. In the occipito-anterior position the curved axis of the child's head and body correspond with the curved axis of the pelvis; but when the occiput is posterior, these curves are reversed upon each other, and to effect a delivery in this position the uterine force must alter the shape of the child by elongation of the occiput, and by producing extreme flexion until the normal curve of the fœtal axis is reversed.

While the fœtal head can stand excessive pressure, yet this process results in the still births of a large proportion of children. Even after extreme moulding of the occiput, the soft tissue of the pelvic floor is exposed to a degree of tension that almost invariably results in laceration of these structures, during the last stage of labor. The expulsion of occipito-posterior position always requires, in addition to a lax adaptation, the presence of very powerful uterine contraction or the application of forceps; even then, the process is a long one.

Then it will be seen that the solution to the situation is to be found in the amount of flexion presented. The better flexion the more certain and more rapid is the execution of normal and most favorable mechanism. It is an established fact in practice that in most cases, when good flexion is established at the start and maintained, that posterior positions are hardly less favorable than anterior positions. Therefore the difficulty increases as the degree of flexion decreases, until we reach the fact that when flexion is lost and it is not promptly restored by art, posterior positions yield long, difficult and exhausting labors for the mother and a large proportion of still births, it being a fact that occipito-posterior labor is much less favorable than anterior position. It is our duty to make every effort to prevent *its* occurrence, or, when it does occur, to convert it into anterior position. Reynolds says: "Fortunately, we are able to effect this end in a great majority of cases, provided the position is diagnosed before rupture of the membranes, or engagement of the head. For this reason we should endeavor to ascertain the position of the fœtus by abdominal palpation some days before labor." He also claims that it is usually possible to rectify it by postural treatment of patient. If the patient is placed in the knee-chest position, the anterior wall and fundus are the lowest portions of the uterus. So long as the patient remains in this position there is a tendency for the child to sag away from the brim under the influence of gravity, and since the recession of the head from the brim leaves the child free to turn upon its own axis, while the presence of the spinal column makes the dorsal side the heavier, and has also a tendency toward a rotation of the fœtus as a whole until its dorsum is in opposition to the anterior wall of the uterus. The woman should be instructed to assume this posture several times daily during the last weeks of pregnancy, and to remain in this position some minutes, and, on relinquishing it, to lie on her right side for a short time before arising, in the hope that as the child's head settles down against the brim, it may become fixed in an anterior position. This treatment might be tried even though the patient is not seen until labor has begun. So long as the membranes are not ruptured, if the head, after once becoming anterior, shows any tendency to revert to the posterior position, it would be well to rupture the membranes in order to prevent this occurrence. In most the head, in posterior position, passes the superior strait by natural efforts, after some delay and moulding of the head. The physician should endeavor to ascertain the degree of extension; if not extreme, no need of alarm at the failure of progress, but should avoid interference so long as the condition of both patients remains good, but should extension be extreme and no progress is being made, some operative procedure should be adopted.

To produce flexion it is recommended that pressure be made on the forehead with the fingers, the woman being in a knee-chest position, in order to have the assistance of gravity. Should extension recur it is best to anæsthetize the patient and to introduce the hand into the vagina and dilate the os to a degree sufficient to admit the half hand within the uterus, then press the forehead gently upward until complete flexion has been secured and the head has been freed from the brim; with the fingers still pressed upon the forehead to maintain flexion, the head should be forced into the brim by external pressure and held there until a firm engagement in a flexed position has been effected by the efforts of the uterus. Should this fail, an operative delivery will be necessary. There are three methods possible: The child may be at once turned. The head may be rotated manually and the forceps applied to the anterior occiput, or the forceps may be applied while the occiput is still posterior. The latter method is to be adopted only when the other two are contra-indicated or impossible. It has been my practice to give Nature full time to accomplish labor unaided before using any operative procedure.

I have recently had two occipito-posterior positions in which forceps were used. About 8 P. M., on August 31st last, I was summoned to see Mrs. L., a primipara. She had been having pains all the previous night. On digital examination I found the os dilated to about the size of a quarter of a dollar, with pains non-effective, and at this time I was unable to make out the exact position of the head. She was attended by a midwife, so I left, to be called when needed. About 5 P. M. I was hastily called and asked to bring Dr. Drennon. On arriving and making an examination, we found the child in the third position and proceeded at once to deliver with forceps. There was a partial laceration of the perineum, requiring three sutures to repair it. The child was in good condition, and the mother made an uninterrupted recovery.

The second case: December 30th, about 10 P. M., I was called to see Mrs. W., in her third confinement. She had been suffering twelve hours or longer; pains were non-effective. On examination I found the os dilated to about the size of a half dollar. After giving some directions I left her for an hour or so. On returning I found she had made very slight progress, though her pains at this time were good. About 3 A. M. her pains were so severe I decided on instrumental delivery and had Dr. Talley called in to assist me. (While waiting for the doctor the pains were so violent I gave some chloroform to relieve her suffering.) After Dr. Talley had made his examination he agreed with me in my diagnosis,

and the plan of procedure. We succeeded in delivering her without much trouble. There was a slight laceration of the perineum, which we closed with one suture. This child was also in good condition. The mother did not even have a rise of temperature. In each case it was a dry labor.

ETIOLOGY AND PATHOLOGY OF PYOSALPINX AND CHRONIC SALPINGITIS.

By R. E. Conniff, M. D., Sioux City, Ia.

THE true nature of pelvic inflammations is often overlooked, and no condition with which I am familiar is more mystifying to the general practitioner.

In order to understand the true relation of tubes to the uterus and other pelvic organs, we must first remember that they are of common embryonic origin and that anatomically they are very similar. The tubes, like the uterus, are covered by a serous coat. They have two muscular coats, a longitudinal, common to the uterus, and a circular, peculiar to themselves. They are lined by mucous membrane which is covered by cylindrical epithelium, whose cilia wave toward the uterus. The inflammations which involve the Fallopian tubes are so intimately associated with other inflammatory conditions of the pelvis that it is quite impossible to treat of one without taking the others into consideration. Indeed, a salpingitis rarely exists as an independent condition, unassociated with either a peritonitis or cellulitis, and is consequent upon a pre-existing endometritis. Just as a peritonitis may arise from an affection with the appendix, or a nephritis may result from a cystitis, so does the inflammation within the tubes spread by continuity to the adjacent structures. And we may have an ovaritis or a peritonitis or a cellulitis resulting. These results are even more apt to follow than in the cases stated, because of the opening of the tube directly into the peritoneal cavity. We can simplify matters and come to a better understanding of the conditions present by remembering that inflammation here, as everywhere else, is the same process, and comes from a common cause, no matter in what part or structure it may be found, the severity of the process depending upon the virulency of the affection and the modifying influence of local conditions. Moreover, its causation can be narrowed down to an infection, and all other so-called causes may be set aside.

Pelvic inflammations are the result of either a specific or septic infection. The apparent exceptions are so rare that they only prove the rule. I believe it quite probable, but it is a condition rarely seen, that peritonitis may result from the presence of a neoplasm and the consequent interference with the nutrition of the part. In the cases so often seen where a neoplasm is associated with disease of the tubes, the inference is the inflammation is due to the infection from within the tube, rather than from the presence of the neoplasm itself. In all these cases the lymphatics play an important part as carriers of the infection.

The symptoms of pelvic inflammation depend on the virulency of the infection and the anatomical structures involved. Three symptoms are almost universally present; namely, pain, hemorrhage and abnormal discharge from the uterus. When suppuration takes place the symptoms of septicæmia are added. Special organs may give rise to special symptoms, through the reflexes or through sympathy. Salpingitis of the catarrhal type has but few symptoms, and is often present without the patient being aware of it; as it is an extension of an endometritis, there are but few, if any, symptoms peculiar to itself. There may be a slight increase of the headache, backache and malaise, with a corresponding increase in the vaginal discharge, but no definite symptoms exist, and the condition is only discovered when its results are seen in the broken health of the patient. Interstitial salpingitis is a far graver condition. Increased leucorrhœal discharge is the first symptom, accompanied by pain. The pain varies in intensity from a slight uneasiness to a severe agony. This condition is often associated with inflammation of the ovary. The severe pain is a pretty sure indication of the extension of the inflammatory process to the peritoneal covering and the engorgement of tissue with inflammatory products. Pressure gives rise to severe pain and motion of the body intends to increase it. Walking, riding or jarring of the body in any manner increases the pain and are often found impossible for this reason. Menstrual disturbances are the rule. The periods come too frequently and last longer than usual. The menstrual flow is often associated with severe pain, which may occur several days before and last several days after its cessation, or it may be almost entirely absent. All the symptoms, pain, hemorrhage and leucorrhœal discharge, seem to depend on the involvement of the serous covering. These symptoms, with a history of an infection, either septic or specific, are indicative of this form of pelvic inflammation. As in all inflammations, we have rise of temperature, acceleration of pulse, neither of which, however, are of a great deal of importance as a diagnostic symptom, for the reason that the patient is rarely seen except in a chronic state, when both temperature and pulse are practically normal.

Should peritonitis or cellulitis occur, which is the next step in the inflammatory process, we have chills or rigors, with increase of all the other symptoms. Pyosalpinx results when the inflammatory condition goes on to suppuration, and with it we have all the symptoms of septicæmia present—chills, rigors, elevated temperature, rapid pulse, swollen and distended abdomen, which is unyielding and extremely tender to the touch. The skin is cold and covered by a perspiration, appetite gone, patient restless, dull and uninterested in her surroundings. The pain is intensified and may be very persistent. The patient becomes rapidly emaciated, grows steadily

worse, and her condition becomes more serious as the days go by. Such, in brief, is the symptomatology of two of the most serious inflammatory conditions to which woman is heir.

NERVOUS ENERGY VIEWED IN THE LIGHT OF RECENT DEVELOPMENTS IN THE STUDY OF THE "ETHER."

JAMES A. CARMICHAEL, M. D., NEW YORK.

THE scientific world is now being moved to its centre by the revelations of a mighty energy that embraces the world from pole to pole, an universal and all-pervading "ether," filling interplanetary space, permeating every thing in space and on earth, glass, stone, wood, metal, flesh, water insinuating itself between particles of glass, differing from the Röntgen rays, which of themselves constitute one of the marvelous wonders of the nineteenth century, and already appropriated and devoted to beneficent utility in surgery for the relief of hidden and obscure disease; the detection of foreign substances buried in deep recesses of the body, and that have hitherto defied discovery, but now easily located and removed. To give only an approximate idea of the movements and transmissibility of this subtle force, I propose to make a few extracts from the latest scientific reports of its all-comprehending ubiquity and universality and the inconceivable velocity of its waves and undulations as compared with those of light. It has been found that "the ether enclosed in solid bodies is much less free in transmitting waves than the ether in the air. Thus glass alone transmits light waves at about the rate of three miles per second. The ether in the glass transmits them at a rate 40,000 times greater, or about 120,000 miles per second, while the ether in the air transmits them at the rate of 192,000 miles per second." With respect to electric radiation and electric waves and their discovery by Joseph Henry in Washington, D. C., in 1842, and what is called the "induction current," that is now among well-known phenomena and familiar to all electricians. But the genius of a young Italian, a native of Bologna and educated at Florence and Leghorn, Guglielmo Marconi by name, has by the recent invention of ingenious instruments been enabled to illustrate the capacities of electric waves to such an astounding degree, that, as reported, "It sounds like a fairy tale, and if it had not for a background four grave and eager committees representing the British army, the British navy, the British Post Office and the British Lighthouse Service, which are now investigating it, it might well be doubted. It often happens, as we know, in the incisive and devoted investigation of science, that minds engaged in this absorbing and intensely attractive pursuit, reach the same or similar conclusions when contemplating any special department or fact in science. Such is at present the case, as shown by the presence of two competitors in London, both of whom have been devoting themselves to these most interesting and important researches, and with abundant promise of the ultimate evolution of facts and practical results of incalculable value to many of the most vital interests of the world today. One of these I have already named, the young Italian, Guglielmo Marconi, the other represented in the person of Dr. Jagadis Chunder Bose, by birth a Hindoo, a graduate of Cambridge, with the degree of Master of Arts, honored with the degree of Doctor of Science by the University of London, because of certain inventions regarding electric waves, which have won him the highest praise in the Royal Society, the British Association and elsewhere. Want of space forbids the details of an interview held with Dr. Bose upon the subject of the transmissibility of these waves or rays through solid substances. His rays are of "comparatively slow vibrations, representing fifty billion oscillations per second. The ether vibrations which lie between 200 billions and 400 billions of vibrations in a second, are heat rays, producing the sensation of warmth. Above 400 trillions, and as far as 800, they are light rays, with the sensation of light. According to their rapidity, these light rays produce a gradation of colors. The lowest numbers of light vibrations give to our eyes the sensation of red, and the scale mounts through the yellows, greens, blues and violets. When the number of vibrations passes 800 trillions per second they become invisible. The human eye is limited in its perceptive power to vibrations between 400 and 800 trillions. Then come the regions called 'invisible light rays;' the same is true of the ear with the regions of 'inaudible sound.'" Thus far have I quoted from the authority of Dr. Bose. Now we come to the astonishing revelations of telegraphing through the air without wires, discovered and being perfected by Marconi, and which, as reported, "Has received the fullest recognition in England, and engineers from four different departments of the English Government are now supervising Marconi's work." A few facts, as stated, will give some idea of his achievements. W. H. Preece, chief of the electrical department of the British postal system, reports as follows: "By setting up lines of wire opposite each other on the two coasts of the Island of Mull and the mainland, a distance of four and a half miles, he telegraphed by induction over the water and through the air, sending 156 messages, one of them 120 words in length." From Marconi's reports we get the following: "While using the apparatus of Herz for exciting electric waves, with a variation of my own, I made a discovery. I was sending waves through the air, and getting signals at distances of a mile, when I discovered that the wave which went to my receiver through the air was also affecting another receiver on the other side of the hill. The waves were going through or over the hill, and it is my belief they went through a thickness of three-quarters of a mile. While the Herz waves have a very limited penetrative power, another kind can be excited that will, I believe, penetrate anything and everything." Other experiments were made,

such as sending and receiving waves through seven or eight walls of the General Post Office Building of London. As respects the utility of the waves, they may be used for electric lighthouses when fog prevents the passage of light, and he believes they will go through an ironclad. Marconi and Preece are now working at Penarth in Wales to establish communication through the air from the shore to the lightships, which lie off the coast at any distance from half a mile to twenty miles or more. The waves may be used to prevent collisions of ships during a fog, ships can be supplied with the apparatus, and alarms will ring on approach within any desired distance, and the direction of each indicated by an index. Marconi believes in the ultimate possibility of sending a dispatch from London to New York; it would require two stations that would cost less than £10,000 or $50,000 with fifty or sixty horse-power. Cannot say with certainty if the waves would go through the ether in the air or through the earth.

He believes that further invention will be able to concentrate the rays in one direction. They may be used for military purposes instead of the present field telegraph system, and by the admiral of a fleet to communicate with his ships, but there might be danger of exploding the magazine if there happened to be two nails or wires or plates in the powder magazine in a position to set up induction. It is so much of a possibility that electric rays can explode the magazine of an ironclad that the fact has already been recognized by the English Royal Engineers. This possibility would make electric waves from coast defences a terror to ironclads equal or greater than the ranges of modern cannon." Thus have I endeavored to give the pith of these marvelous evolutions of science in revealing some of the operations of nature's laws. Want of space forbids the statement of other facts connected with the system of Marconi, but enough has been said to give full expectation of a realization of the enormous possibilities that still remain unrevealed, but which will doubtless be brought to light by the untiring efforts of scientific exploration of the application of this new energy, we won't call it force, because force suggests ponderability, and here we are dealing with an energy that of itself is imponderably invisible, and yet capable of overcoming time and space, and, as we have seen, manifesting a power that would decimate human life in a twinkling, carry destruction in its train, and set at naught all other measures of protection and defence.

To return to Dr. Bose, and to repeat a few additional suggestions made by him. While giving expression to the vernacular of exact science as it is to-day, and dilating upon the wondrous achievements yet to be secured in future investigations of this mysterious ether, and the developments that must follow from the tireless progress of science, he, as a native Hindoo and a representative of his Oriental home, would naturally see in these revelations a solution of the wonders of the occult, and it is with pardonable and reasonable verisimilitude that he should declare that "theosophy and Christian science will shortly hug the ether to their breasts as the undoubted vehicle of their claimed marvels." What say ye, savants, sciolists and pseudo-sciolists, ye hierophants and high priests in the temple of science, ye gropers after the arcana of human life? What say ye in confrontment with these stupendous things? The "gradus ad Parnassum" is often slow and toilsome, but now and then there leaps into light and life some God given genius, and at a bound o'ertops ye all. But though Dr. Bose may say "the ether is the great field of the future, a field whose products no one can imagine or attempt to conceive," and though the genius for all time has said, "These be parlous times, my masters, and there are more things in heaven and earth than are dreamt of in your philosophy," yet might it not be well to have a care? The Italian proverb runs "Chi troppo abbraccia nulla stringe."—He who attempts too much accomplishes nothing.

The next step whereby I would follow this shining and mysterious path that lies before me would assuredly fascinate and lure me into the daring venture to apply this wondrous ether to nervous matter, to the operations of the brain, to mentality, thought, intercommunication of brain with brain, nerve energy, individual and combined, the senses of vision, audition, etc. But the economy of journalistic space forbids, and all these interesting inquiries must be left for future consideration, and for wrestling with the anxious doubts that must naturally fill the mind when it seeks to explore the mysteries of its own being and to solve the secrets of its own operations, whereby, from the foundation of the world, and from the genesis of man, God set His seal upon him, and by the stamp of immortality made man like unto Himself, and a partaker with Him of endless life. But though with rash, and it may be impotent, endeavor, I may seek to discover these hidden things, and the only reward be "a lame and impotent conclusion," and though the same effort has been defied and met failure and defeat, and been confronted with "Thus far shalt thou go and no farther," through all the history of the unknowable, yet with Macbeth, "What man dare, I dare," and I have the one comfort that, like Archimedes with his lever, I have found my fulcrum, the omnipresent ether. This new and wondrous light that has just come into man's ken, this filmy and incorporeate ether that now and hereafter will illuminate many a hitherto dark and unfathomed mystery of life, will, I invoke, to help over the stony places, lest I stumble and be brought to confusion, and be sure I'll die hard, come what may!

A simple preventive against the appearance of wrinkles is this: Saturate a soft towel in very hot water, wring it and apply it to the face, keeping it there for at least twenty minutes. Then dry the face very gently. This must be done just before going to bed. When traveling, if the skin is very sensitive, do not bathe the face except at night and in the morning, and then throw a few drops of tincture of benzoin into the water, so that it may be made soft and agreeable to the skin.—*December Ladies' Home Journal.*

NUCLEIN SOLUTION IN THE TREATMENT OF SCROFULA.

By J. Ivimey Dowling, M. D., New York.
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SOME clinicians claim that scrofula is a tubercular manifestation of the lymphatic system, others that it is a dyscrasia independent of tuberculosis, but the weight of evidence appears to favor the first proposition, as bacteriologists have found tubercle bacilli in glands diagnosed as scrofulous, and therefore consider it an early and curable stage of tuberculosis.

It is well known that the cervical, inguinal, bronchial and mesenteric glands are most often diseased, but other glands may be involved.

Throughout this paper the term scrofulosis indicates a condition characterized by enlargement of the lymphatic glands, transparent, delicate skin, through which the veins are readily distinguished; the eyes are generally bright and the sclera of a bluish tint. The features may be coarse or delicate, the flesh firm or flabby. The abdomen is, as a rule, large and protruding. Differences in temperament are accompanied by certain groups of symptoms which render possible the classification into the nervous or phlegmatic types.

Recognition of these differences is necessary in order to obtain the best results in the use of remedies.

It has been my experience that the cervical lymphatic glands are prone to great hyperplasia, while the glands of the inguinal region are, as a rule, small, and do not attract visual attention, but upon palpation, a chain of shotty enlargements will be discovered.

The tendency of scrofulous glands is to cheesy degeneration and finally suppuration. It is the province of treatment to prevent either of these progressions in the condition, for the cheesy glands render a favorable nidus to the tubercle bacillus, and the suppurating scrofulous gland is prone to become a tedious charge to the patient, finally healing, but leaving as a legacy a most unsightly scar.

Treatment may be hygienic, remedial, and in some cases surgical. The hygienic method includes the proper use of nourishing foods and suitable sanitary surroundings; remedial means suffer frequent change, according to the ideas of different practitioners. A physician having had success with some particular remedy exploits its value, and is so sure of its power that he declares it almost specific. Consequent upon his declarations, many who read his statements discard their former methods and undertake the newly vaunted curative procedure; some are rewarded with success, others with repeated failures. The reason for these paradoxical results is that the original investigator failed to describe accurately the character of his patients, for no remedy will prove equally efficacious in different types of the same disease.

The surgical treatment is to be deplored nearly as much as allowing the glands to suppurate, for the excision of the glands does not eliminate or render latent the diathesis, and leaves an unsightly scar, which is undesirable, even though it be a linear one and proof of the surgeon's skill.

Hygienic and remedial measures, used cojointly, yield the best results.

A case having presented itself, it should be distinguished either as nervous or phlegmatic in character; then from the many extolled remedies one should be selected and prescribed with proper hygienic directions; then theoretically all the patient has to do is to follow instructions and progress to a normal condition; but, unfortunately, they do not follow this plan, and after prolonged treatment may still be far from healthy.

It has been my privilege to test the efficiency of nuclein solution, 5 per cent. (Parke, Davis & Co.), in these conditions. This is an almost pure nucleinic acid, containing only traces of albumen, a small per cent. of sodium chloride and trikresol.

The medicinal effects of nucleinic acid are not fully determined, but it is an assured fact that it is germicidal and stimulates cell activity. It was the knowledge of these facts which led me to test its activity in the treatment of scrofulosis.

I have kept a careful record of four cases tested with this preparation, and have observed a general improvement, with the disappearance of the glandular enlargements, and am confident that it will prove beneficial in many cases which ordinarily tax the skill and acumen of the prescriber.

The first cases in which I tested the remedy, were two boys, and their improvement was so marked that it was decided to pursue investigations still further, and accordingly two girls were chosen for treatment from among the 350 children of the Five Points House of Industry.

Before giving a more detailed account of the cases, I will copy two entries from my note book:

"October 17, 1896.—The evening temperatures, of the cases under the nuclein treatment, have been elevated from ½° to 1° Fahr.; but at present the temperatures vary but slightly, no more than in health. I cannot state to a certainty that there is any improvement, but think I see a change for the better.

"October 19.—To-day, when I examined the two children who are under the nuclein treatment, I was quite positive I could notice *marked* improvement, especially in one of the children."

Case I.—Campbell C. æt. seven, presents a fair appearance for a strumous child. His head is well shaped, measuring 20¾ inches in circumference, and is covered with dark fine hair. Eyes are large, with brown irides and bluish tinted sclera. The teeth are regular and strong. Under the delicate skin the veins are finely outlined. The muscles are firm, but the abdomen protrudes slightly. The cervical glands are the size of pigeon's eggs, while the inguinal glands are but slightly enlarged. He is an active boy, and fairly represents the nervous temperament.

The above notes described his appearance on October 1, 1896, when the treatment was begun and he received nucleinic acid (5 per cent. solu-

tion), 3 i t. i. d. before meals. The evening of the first day the oral temperature was 100° Fahr., and the following morning was the same, with an advance of $\frac{1}{5}$° toward evening. This morning and evening rise of temperature continued for several days, after which it gradually returned to its normal variations, but at times would have an elevation of 1° or 2° Fahr. After twenty days' treatment, his condition apparently was not materially changed. So I increased the dose to 3 ii t. i. d., which was again followed by a slight evening rise of temperature. Within one week after increasing the dose there was a marked improvement in the general condition, but particularly in the glandular enlargements; the cervical glands had diminished fully one-third in size. These beneficial effects continued, and on November 19, 1895, he was discharged from the hospital. He was under treatment for about twenty-five days before any decided change was observed. It is now over three months since the subsidence of symptoms, and there is no apparent tendency to a return of similar manifestations, consequently, in his case, I consider the remedy to have worked marked curative effects.

Case II.—James F., æt. seven, was the second patient to receive the preparation, and he passed through similar but longer stages before a cure was effected.

His treatment began simultaneously with Case I., and at that time presented the pathognomonic symptoms noted in that patient.

His head is well shaped and 19$\frac{3}{4}$ inches in circumference. His chest has that deformity known as pigeon breast. The abdomen protrudes and the muscles are flabby. He is slow in action, and also mentally sluggish. Phlegmatic is descriptive of his entire being.

Again, in this case a slight rise of temperature followed the early administration of the remedy, but no marked improvement was distinguishable until after the dose was increased from 3 i to 3 iss on the twentieth day, then a slow improvement began, but in the hope of hastening the progress, the dose was again increased on November 16, 1896, to 3 ii. This larger dose caused the glands and tissues of the affected side to become somewhat swollen and tender, but this condition only continued for a few days, after which a rapid subsidence of symptoms occurred, and on November 24, 1896 the medicine was discontinued, the boy being cured of his scrofulous glandular manifestations. The inguinal glands disappeared as well as the cervical.

The benefits in this case were not as rapid as in Case I., but I attributed this to *the difference in temperaments, the first being nervous and the latter phlegmatic.*

Case III. is a girl, Louise B., æt. twelve, with a well-rounded head measuring 21 inches in circumference. She represents the same group of symptoms as Case II.

On November 19, 1896, she received an initial dose of 3 i t. i. d., which was continued for three weeks, when it was increased to 3 ii, as there had been no improvement under the smaller dose. Up to the present time, February 25, 1897, there has been no decided benefit, although her appetite is much better and the glands are evidently somewhat reduced in size.

In this patient there has been *no rise of temperature at any time which could be attributed to the nuclein.* This is accounted for probably by her phlegmatic temperament, so I will increase the dose to 3 ii ss t. i. d.

Case IV.—Viola T., æt. four. The head measures 18¼ inches. The cervical glands are greatly enlarged, particularly on the left side, where they are as large as hen's eggs. In the inguinal region there is a shotty enlargement of the glands. The abdomen is rather large. She is quick in action and mentally bright, and is distinctly of a nervous temperament.

She received a first dose of 3 i t. i. d., which was followed by a rise in temperature of 1½° Fahr. At the end of the first week her temperature was unaffected and there was a noticeable decrease in the size of the lymphatic enlargements, with general constitutional improvement, which was more marked than in any previous case and continued until December 16, 1896, when she was stricken with scarlet fever. The nuclein was now discontinued and attention paid to the acute malady, from which she made a good recovery, except for marked weakness. On February 5, 1897, the remedy was resumed, the glands having remained stationary during the fever. At the time of returning to nuclein the glands were about two-thirds of the original size. From then until the cure 3 i t. i. d. was administered. The benefit was marked and rapid, the weakness which was left by scarlet fever soon disappeared, and no rise in temperature was apparent. The decided gain in strength indicates a tonic action of the remedy.

From these observations it is shown that nucleinic acid is cumulative and tonic in action, that a larger dose is necessary in phlegmatic than in the nervous temperaments, and must be determined according to the patient's idiosyncrasies. I have shown that the nervous types are more susceptible to the remedial influences of nuclein, and it is in such cases that the physician will have the greatest success.

Celluloid as a Substitute for Plaster of Paris.—Louderer and Kirsch (*Cntrbl. f Chir.*, No. 29, 1896; *Am. Med. Surg. Bull.*) have found celluloid an excellent substitute for plaster of Paris in bandages and jackets. The celluloid is first dissolved in acetone (one part celluloid, chipped fine, and four parts acetone by volume). The solution is made in a close-stoppered bottle, and is stirred from time to time to time to assist the process.

Gauze or crinoline bandages are used. After each layer of bandage is applied some of the celluloid is rubbed thoroughly into it, the hand being protected by an ordinary kid glove. From four to ten layers are applied and rubbed full of the celluloid mixture, according to the strength desired. The outer surface is coated with celluloid. A jacket made in this way weighs about one-fourth that of plaster of Paris. It is very elastic, easily kept clean, and is, of course, impervious to moisture, urine, fœces, etc. To provide ventilation any number of small holes may be punched through it. It dries more slowly than plaster, requiring three or four hours to become thoroughly solid, and is rather more difficult of application; but once made, such a bandage is very comfortable, and may be worn for months without breaking.

ON THE TREATMENT OF INTERNAL HEMORRHOIDS.

By George Boice Durrie, M. D.
Attending Physician Metropolitan Hospital, New York.

IN a recent article on the treatment of some diseases of the rectum, I called attention to the advantages which, in my opinion, are to be gained by following a course different from that pursued by most surgeons, a course which has proved itself eminently satisfactory in the hands of the few to whom the greatest simplicity consistent with a perfect cure is the one thing sought for. There is no denying the fact that, however ready the surgeon may be to perform an operation, the average individual shrinks from it, and will submit only when convinced that no other course is open. Can it be imagined for a moment, that if, in any of the disorders calling for surgical interference, a cure could be promised without the use of the knife, there would be any hesitancy on the part of the patient which course he would choose?

Fortunately for the sufferers most diseases of the rectum *can* be cured safely and effectually by methods in comparison with which those most in vogue seem clumsy and cumbersome. In the oldest medical writings we find mention of hemorroids or piles, and it is manifest that they were recognized at a very early period as constituting a disease of very frequent occurrence. At the present day it may be safely said that comparatively few live to middle life without suffering more or less from this disease. The description given by Hippocrates, as translated by Bodenhamer, I think worthy of quotation. It is as follows: "A defluction of bile or of pituitous matter to the veins of the anus inflames the blood which those veins contain. The veins themselves being inflamed attract the blood of the others near them, and being filled with it raise and swell the internal parts of the rectum. The little heads of the veins are then conspicuous, and partly from the pressure of the fæces and partly from their own fullness are liable to break and emit blood." This description does not accord with what we should say at the present time were we to give an explanation of the many causes leading to the formation of hemorrhoids, but as my purpose is to write an article dealing with the practical side of the question only, I do not deem it necessary to go into etiology or symptomotology, but shall restrict myself to a brief description of the hemorrhoidal tumors as they occur either *within* the rectum (known as internal hemorrhoids) or *without;* (known as external). These two varieties are not infrequently associated, and sometimes when situated at the verge of the anus, covered partly with skin, and partly with mucous membrane, it is not easy to determine to which class they belong. The internal variety, however, is by far the most common, and constitutes the majority of the cases we are called upon to treat, and moreover it is in *these* cases that the injection method manifests its superiority over all others. We find writers on the subject dividing internal hemorrhoids into three classes, some being known as *venous*, others as *columnar*, and still others as *nævoid;* but while admitting that there *are* some differences peculiar to each, I do not consider it important to pay attention to them in order to arrive at successful treatment, inasmuch as they are all alike in the one important feature, that they consist entirely of *vascular tissue*, and besides, are covered with mucous membrane. Internal hemorrhoids are round or oval shaped tumors, situated generally from 1 to 2 inches above the internal sphincter muscle. Smooth to the touch, and in color dark red, except when compressed or strangulated, and then they assume a dusky purple hue. There is not much pain associated with them, but they bleed readily, and give rise to a sensation of fulness and pressure in the rectum. It was formerly thought, and the opinion is still held by some, that the bleeding from hemorrhoids had a salutary effect, but I believe such cases are seldom, if ever, met with.

The loss of blood from internal piles is a pathological condition which should be stopped as soon as possible. Some persons, to be sure, endure this depletion for many years with apparently no ill results, but they do so in *spite* of the bleeding, not because of it. A lady sought my advice, a year and a half ago, who had suffered the distress and discomfort of a bad case of internal hemorrhoids for thirty years or more, under the mistaken idea that to *cure* them would be hazardous. She was relieved in a very short time, and instead of any ill results following she has felt remarkably well ever since. The diseases most likely to be mistaken for hemorrhoids are *polypus* and prolapse of the rectum, and by the latter I mean the partial prolapse, *i. e.*, of mucous and submucous tissue, not the complete prolapse of *muscular* tissue as well. The polypus, instead of being round or oval, is *pear* shaped, and is attached to the bowel by a pedicle. Moreover, its surface, instead of being smooth, is distinctly lobulated. In prolapse of the rectum there is an absence of distinct tumors, and, in addition, a lighter depth of color, either symptom to a careful observer being sufficient to make the diagnosis easy. In order to make a thorough examination of the rectum the patient should be placed in the semi-prone position of Marion Sims, lying on the left side, with the right shoulder turned away from the surgeon, the left arm brought backward from under the body, and the thighs well flexed upon the abdomen, the parts are readily brought into view, and furthermore in this same position any disease of the rectum or anus, whether it be hemorrhoids (which we are now particularly considering) fissure, fistula, prolapsus or ulceration, can be effectually treated, provided the operator be willing to adopt a method the superiority of which over those generally in use I have no hesitancy in asserting. Having satisfied ourselves by a careful examination that the case is one of hemorrhoids, the patient should be directed to bear down in order to press the tumors outside of the bowel, a matter

in most instances easy of accomplishment; but should there be any difficulty a small enema of warm water, with the addition of a little alcohol, will generally be all that is required. With the hemorrhoids in view, I select one to be treated. Holding the syringe in the right hand, I insert the needle as nearly as possible to the center of the tumor, taking care to have the needle make entrance near the base, and inject slowly five or six drops of the carbolic acid solution, the amount injected being regulated by the size of the tumor. If the diagnosis has been correctly made, and the part treated be genuine hemorrhoidal tissues, there will be no pain connected with the operation, and very frequently no sensation whatever. Withdrawing the needle I quickly press a bit of absorbent cotton to the place of the injection, and gently force the hemorrhoid back within the bowel. Should the tumor selected for treatment be a particularly large one, a second application may be necessary, but one will usually suffice. The remaining tumors should be similarly treated at intervals of five or six days, till the entire mass is destroyed. This seems an easy thing to do, and so it is to one who has acquired dexterity from long practice, and the merit of the proceeding, over and above the satisfactory result, lies in the fact that the patient is able to go about as usual while undergoing treatment, and that gradually and imperceptibly the hemorrhoidal mass is disintegrated, and its destruction is just as sure to follow as if there had been an operation requiring one or more assistants, the unpleasant action of an anæsthetic and confinement in bed for a week or ten days.

But one must be sure of his ground before going ahead. Make the mistake of treating by the injection method a substance which is not a genuine hemorrhoid, and you will feel that one mistake is quite enough, and the patient will feel that the claim of painlessness in this operation is not well founded. For the purpose of injection, I make use of a solution consisting of carbolic acid and glycerine, of each one part to six parts of distilled water, and find it in every way satisfactory. It is strong enough to destroy the tissues we wish to act upon, and never leads to any unpleasant complication. Whenever ill results follow an injection of carbolic acid into a hemorrhoidal tumor, it is safe to say that the fault lies with the operator, for when properly applied, the good effects are so manifest that none but a skeptic can question them, and altogether, I do not believe there is within the domain of surgery an instance of so excellent a result following an operation of like simplicity.

Concerning the Action of Lycetol.—Dr. De Tollenaere (*Belg. Med. No. 4, 1897*), makes the following interesting statements regarding this important drug:

Piperazine or diethyldiamine has been used successfully as a solvent for uric acid in the treatment of gout, in renal lithiasis, and in the uric acid diathesis generally. It is to be noted that aside from the falling off of solvent power which its solutions in urine exhibit as compared with those in water, this base is largely oxidized within the organism, to such an extent that only 0.30 gm. could be detected in the urine of a patient who had taken at least 2.00 gm. So that Nojnikoff, although he admits that it is of use in certain cases, for example in arthritic subjects, denies that it is a powerful therapeutic agent.

Lycetol, or tartrate of dimethylpiperazine, combines the solvent action of piperazine, with the not less efficient tartaric acid constituent, which being transformed in the system into a carbonate alkalinizes the blood and has moreover a diuretic action. According to Henley, Wittzack, etc, the continued use of lycetol with an appropriate diet will almost always prevent the very painful attacks which occur in the subjects of chronic gout, and sometimes even dissolve the deposits of biurates in the joints.

We have made use of this product in two cases of chronic gout during the period of exacerbation. In one of these cases the patient was a man aged fifty-five years old who had suffered for several years from gouty attacks. The result was very satisfactory. The pains had disappeared entirely in ten days, and the patient having regularly taken 0 5 gm. of lycetol daily, has had no trouble for the past six months. In the second case, a man of thirty-five years old, the result was excellent during the first two or three days. But the effect fell off so much that at the end of eight days the patient asked to have the treatment changed. As may be seen, our observations in gout have been few, and do not allow us to draw any conclusions. We must confess, however, that they were two cases which we had under treatment for several years in which we had exhausted almost in vain nearly every remedy for gout with results less favorable than those which we obtained from lycetol.

Wishing to extend our experiments with lycetol and guided by the analogy in clinical symptoms, we tried it in seven cases of chronic articular rheumatism, arthritis deformans, one case, and sciatica, four cases. In four cases of chronic articular rheumatism, the results, satisfactory at first, were not maintained longer than a few days, so much so, that at the end of fifteen days the patients could not state any notable change in their conditions. In three of the cases, on the contrary, there was an evident improvement in the general and local conditions. The patients suffered less, felt less pain in the affected joints, and in one case there was a manifest retrogression of the lesions. There was no result in the case of arthritis deformans. In the cases of sciatica the results were favorable in two and negative in the two others. One of these cases was that of a fisherman, forty years old, who had suffered for seven weeks from an obstinate sciatica which he attributed to a rheumatic attack and which we had treated unsuccessfully with injections of antipyrine and the application of the cautery point. At the end of three days he was so much improved that he thought it needless to come back for further treatment. We have also used lycetol in two cases of acute articular rheumatism with the doubtful effect at that stage so often observed in prolonged cases with frequent relapses, at which the system ceases to be influenced by the salicylates. In these two cases the result was favorable as far as it had any influence.

In conclusion our experience justifies us in saying that although lycetol has not shown any specific influence against gout and the chronic forms of rheumatism, it has been none the less a valuable drug in the treatment of these affections, and has not disappointed the confidence placed in it.

We have usually given it to the extent of 0.5 to 2.0 gm. per day in divided doses. Each powder is given with a glass of water. In this way lycetol is easily taken, and its use may be kept up for weeks. Under its influence we frequently see, sometimes within twenty-four hours, a diminution of the pain and an increased diuresis. We may add that we have never noted any injurious effect on either the stomach or the kidneys.

The latest treatment of gonorrhœa is by irrigation with a 1 per cent. solution of ichthyol once daily, seven pints. The strength may be increased to 2 per cent. later. Ordinary injections of a ½ per cent. solution is made with the urethral syringe, morning and evening. The solution may be used, warm or cold.

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THE HARMONY OF MAN WITH THE ENTIRE UNIVERSE.

A FEW days since, seated in the studio of a distinguished artist and watching those magic touches which seemed to transmit to the canvas not alone the features of the individual, but the mind itself, with the lines of thought and mental power distinctly marked, the power of the artist seemed to assume richer and grander proportions. I was looking not only on the features of the man cast in flesh, but the mind itself acting upon each muscle, moulding it at its will and stamping it with its power. The simple æsthetic representation of the artist, however beautiful, is infinitesimal in comparison with the psychological life in all its breadth, in all its beauty and power, which he makes almost live upon the canvas. It has been well said by one of the most thoughtful of living artists that art can express with more power and with more lucidity what nature only expresses obscurely; can represent with the utmost possible verbal exactitude the most complex soul phenomena, can render them visible in their most secret connections; can decompose their elements in forces that have all the intensity of reality, and can reveal the analogy that binds one to the other. It is thus the artist holds up to man an ideal of a better and more harmonious life and gives to science a clue to the elucidation of those precious truths which are interwoven and form a part of the harmony of the universe. Kepler, in the discovery of three harmonious astronomic laws distinguished by his name, showed a most supreme poetic faculty. The writings of Homer, Shakespeare, Schiller and Goethe in their inventive genius are written in the same quality of intellectual faculty which marked the artist and the scientist. The poet, the artist and the scientist are linked together in the work of making life more beautiful and man more in harmony with nature. They teach us that the highest life, the most beautiful combinations, the most exquisite forms, the gentlest and yet the most powerful forces, are simply evolutions of a perfect life, manifest in the affinity of atom for atom and the power of mind to stamp the impress of its creator, the coinings of its thought, upon matter.

To-day the highest conception of life reached through the touch of the artist, the inspiration of the poet, the labor of practical, thoughtful men, is the life which seeks its highest form of expression in the evolution of the soul of nature, in the harmonious workings of its laws.

Everything which contributes to the love of the beautiful, to the perfection of art and of nature, brings us in touch with that higher life which is a part of the harmonious laws of the universe. When man becomes in himself in harmony with those perfect laws which hold in their hands the forces of nature, the millennium will have dawned upon the earth. These simple truths which form the basis of perfect health and of a true life will need no interpretation from the theologist or physician. The wrangling of schools will have ended, the perfection of life will be accomplished, that perfection in which the mortal fades away like a dream and the freed spirit without shock, without suffering, floats imperceptibly into its eternal life.

The study of psychology is bringing us daily more and more in touch with the springs of vital force and the oneness of the laws of our own being and those which control all created matter, holding and binding with infinite strength and eternal power their harmonious action. The further we advance in this study the more the boundless ether reveals its secrets, the more will be computed the nature and power of that magnetic force which flows in never-ending vibrations from world to world, and possibly through every atom of life, carrying not only the moulding of the human mind, but of the eternal spirit, to matter under its direct control.

BERI-BERI.

THE recent arrival of a ship from China after a voyage of the unprecedented length of 260 days, in which a part of the crew had died from beri-beri and others were incapacitated from work from scurvy, has attracted considerable attention,

both as regards the nature of the disease and the possibility of preventing scurvy if proper attention is given to the preparation of food.

Beri-beri is an endemic disease of China, Japan and other tropical countries, having as its basal lesion a widespread peripheral neuritis. It may form one of the varieties of multiple neuritis associated with this neuritis and rapidly developing anæmia, general anasarca, serous effusions, and in severe cases, gastro-intestinal symptoms, suppression of urine and a rapidly progressive exhaustion. The discovery of a specific micrococcus has been asserted. An improvement in the rations has almost driven it out of the Japanese navy.

Scurvy is usually attributable to the absence of fresh vegetables, and yet Nansen in his long voyage through the Arctic Ocean found no trouble from this terrible scourge. The food had been so carefully prepared and placed in hermetically sealed cans that it was really as fresh and as free from the slightest decomposition when opened as when it was sealed. Careless canning often gives rise to decomposition and the development of ptomaines which act as more or less deadly poison.

SKIN DISEASE.

DR. BULKLEY, the distinguished specialist in skin diseases, has given to the profession a résumé of some of the newer remedies which he has found of special benefit. Among the list mention is made of antipyrin, antifibrin and phenacetin in urticaria when it is not kept up by alimentary trouble. Among local remedies he finds *Resorcin* almost a specific in eczema, seborrhea, which is really a parasitic disease of microbic origin. In a strength of about 6 per cent. of zinc ointment or in solution with a little alcohol and glycerine, it will clean the scalp in a few days. A stronger preparation, up to 25 per cent. of zinc ointment, is most efficient in acne-rosacea, the application of which a second and third may be required, is put on for several days, and causes just a little inflammation. A 10 per cent. ointment is of benefit in ulcerative conditions of a tuberculosis type.

Icthyol is in such general use in eczema, in burns, in ulceration, in infiltrations such as joints enlarged by rheumatism and gout, in pruritus ani that it is familar to all. Dr. Bulkley uses it also externally and internally in piles with the most marked success. Internally it is given in from ten to fifteen drops in water or capsule after each meal.

ORIGIN OF PLAGUE.

SURGEON LIEUT.-COL. WATERS, of the East India Army, advances an entirely different theory for the origin of the bubonic plague from those usually accepted. The poison germs, he claims, are generated from decomposing grains, especially millet, which is the cheapest of all grain food. He says:

"It is very interesting in this connection to hear the native opinion of the cause of plague in Almora, where it has not infrequently made its appearance. Mr. Troupe, of the Kausanie Tea Co., and who has resided in those parts for some thirty years, has kindly informed me that the natives there ascribe an outbreak to millet grain which has long been stored in the ground under the floors of the houses. Millets are the only grain cultivated in Almora. Mr. Troupe, from his own extensive observation, subscribes to the native view, and says during an epidemic of mahamarri—the local name for the bubonic fever—the outlying villages suffer most, as they have no market for their surplus stock of grain. Mahamarri has been very uncommon in these districts of late years, which may be accounted for by a succession of bad seasons having cleared out all the stock, and thus left none to get affected." Arguing from what is said above, may it not be inferred that the Bombay outbreak may be traceable to the high rates prevalent for foodstuffs having unearthed old and injected stocks of grain. I am creditably informed that natives are well aware that the using of grain pits is a matter fraught with danger to life and the grain of an old pit is therefore freely ventilated for a week before it is further handled.

POOR ALCOHOL NO MORE INJURIOUS THAN THE BEST.

RECENT discussion of the question of alcoholism in France, says the Paris correspondent of the *Medical News*, has brought out very clearly one important fact. It has been the custom to say that the evils usually attributed to alcohol disease, degeneration, insanity, were not due so much to the amount of alcohol consumed as to the quality of it. As is often said in America, it is the fusel oil, the paraldehydes, the higher alcohols, and certain poisonous ethers contained in poor whiskey that make its ravages so serious among the poor. Repeated chemical analysis at the Sorbonne of series of liquors selected for the purpose show that these substances are present in quantities so small that practically they may be entirely neglected in the results produced. Joffroy, of *L'Asile Ste. Anne*, has published a series of experiments to the same effect, from a bio-

logical standpoint. It takes no more of the poorest alcohol obtainable to kill an animal than it does of the very best. The vile-smelling, bad-tasting, often ill-looking alcohol that comes over at the very beginning, or again near the end, of the distillation of a quantity of liquor will kill an animal, when injected, no sooner than the bland, oily alcohol, with its pleasant bouquet, that comes over in the very heart of the distillation. The experiments have been repeated often enough to give assurance that the conclusion is correct.

HOT AIR TREATMENT OF ARTHRITIS.

THE Talleman-Sheffield treatment of rheumatoid arthritis by means of hot air cylinders seems to be borne out by clinical experience, if we may judge by the reports of cases.

The method consists in the local application of hot air to the parts affected. The apparatus by which this is accomplished consists of a copper cylinder, under which several gas jets are kept burning. Into this cylinder the limb is inserted and the ends are closed. Stop-cocks are arranged to let out moisture exuding from the skin, and the temperature is raised to 250 to 260 degrees. Precautions are taken to prevent the limb from coming in contact with the hot metal, and the application is continued for fully forty minutes.

In most cases one application is sufficient, and the London hospital reports include the most chronic ones as absolutely cured by this means, even old cases of arthritis deformans.

The affected limb is placed in the cylinder at a temperature of 150 degrees and the heat is gradually increased to 240 degrees. During the treatment the pulse and temperature increase, but soon return to normal afterward.

In our December issue we gave a short description of this method, and the clinical results since have been such that we feel justified in again calling the attention of our readers to the subject with the hope that it may be further tested.

A LONG STEP IN THE RIGHT DIRECTION.

THE old hospital exclusiveness of devotion to ideas only which are stamped as thoroughly orthodox is rapidly giving place to a broader philosophy which recognizes as orthodox and thoroughly acceptable every agent which will bring prompt relief to the patient. The doors are beginning to open, not alone to creed but to the ripe thoughts of culture, and experience without regard to dogma. In medicine, as in theology, the iron-bound rules of dogma are giving place to the enlightened thought and liberty of investigation which enables the educated disciples of all schools to join hands in intelligent work free from personal animosity and sectarian antagonism. There is no man so wise but what he can learn some little thing at least from his neighbor.

We are particularly pleased at the tendency of the present age for men of all schools to work together with mutual respect and harmony in hospital work, very forcibly illustrated in the old town of Fishkill, which played such a prominent part in Revolutionary history and which contains within the radius of a few miles a population of from ten to fifteen thousand inhabitants. A new hospital has just been organized which contains on its medical staff all the physicians of the town, who wish to belong to it and are found worthy; and to be found worthy the question of dogma or sect is never mentioned, but simply the culture and scientific attainment which should belong to every physician. The worthy president, Dr. J. E. Moith, with his confreres in the profession deserve the warmest congratulations of the public and the profession in the liberality and energy shown in connection with the new enterprise, which other towns will do well to copy.

CONGENITAL EROSION AND SPLIT OF THE CERVIX UTERI.

PENROSE, in the *American Journal of Medical Science*, directs attention to a condition of the cervix uteri in virgins and sterile women which he believes is not by any means generally recognized.

The importance of such cases is very great from a medico-legal point of view.

The author states that, although he has had no opportunity of studying the cervices of infants, he has met with one undoubted case of congenital split of the cervix in a virgin, and three cases of disease of the cervix in young women, which he thinks may be explained by the presence of the congenital erosion described by Fischel, in a paper published in 1880, and called a "contribution to the morphology of the cervix uteri."

He deems it probable that the condition described is distinct and congenital, and is due to the development upon the vaginal aspect of the cervix of those structures which are normally confined to the cervical canal. Fischel found such a condition in 36 per cent. of the infants examined by him. Erosions are common in cases of congenital antiflexion, and it is in such cases of imperfect development of the uterus that one

should expect to find imperfection in the development of the external os.

The case reported as an undoubted case of congenital split of the cervix occurred in a girl seventeen years of age. There was a well formed annular hymen present, which with difficulty admitted the little finger upon examination. Introduction of the index finger ruptured the hymen. The integrity of the latter was not regarded, as it was thought a second degree of retroversion required correction. There was a bilateral split of the cervix present, marked on the left side to the depth of three-eighths of an inch. An erosion surrounded the os, but no ectropion was present. Neither was there leucorrhœa.

Three excellent colored plates, descriptive of these cases, are presented.

SUGAR IN THE URINE.

THE *Scientific American* gives what it is claimed is a delicate test for sugar in the urine :

℞.	Cupric Sulphate.....	gr. xxvii
	Glycerine.....	ʒ iii
	Aqua.....	ʒ ii ss
	Liq. Potassa.....	ad. ℥ iv

Dissolve the cupric sulphate in glycerine and heat. When cold add the liquor potassa. Pour a drachm of the solution in a test tube with two or three drops of a saturated solution of pure tartaric acid and boil. Now add, drop by drop, eight drops of urine. If there is no reaction there is no sugar. Sugar is present if the reaction yields a yellowish, reddish or greenish-gray deposit.

IMPROVED TECHNIQUE OF VAGINAL LIGATION OF THE UTERINE ARTERIES AND INDICATIONS IN UTERINE FIBROMATA.

DR. AUGUSTIN H. GOELET, in a paper presented to the New York State Medical Society (*Medical Record*), thinks that this operation has not been given the consideration it deserves as a conservative surgical measure and that it has a distinct place in gynæcological surgery.

The purpose of the operation is to produce atrophy of these tumors by cutting off the nutrition afforded by the uterine arteries which furnish the uterus with two-thirds of its blood supply.

The indications for the operation are interstitial fibroids which do not reach above the level of the umbilicus and small subperitoneal growths which spring from the wall of the organ below the fundus, and where excessive adhesions have not formed with adjacent structures through which the tumor might receive nourishment.

He thinks that ligation of the vessels *en masse*, including the surrounding tissues at the base of the broad ligament, does not positively assure complete obliteration ; that with the shrinking of the tissues in consequence of the compression the ligature loosens and the circulation is restored. He therefore clamps and ties the vessel, then divides it, tying afterwards the uterine end of the artery, which bleeds also because of its anastomosis with the ovarian. In those cases where this method was adopted the tumor has undergone complete atrophy.

While this operation has a limited application it possesses some advantages which commend it, *viz.*:

(1) It involves little or no risk when carefully executed.

(2) It does not involve a tedious convalescence.

(3) It is quickly and easily performed.

(4) Its immediate result is to afford prompt relief of the symptoms.

(5) Its ultimate result, which is manifest within six months, is complete, or almost complete, atrophy of the tumor.

(6) It does not unsex, mutilate or disable the patient.

ONE of the most interesting phenomena of scientific investigation is that when in the progress of thought the world becomes ripe for the unfolding of new truths the germs may develop in scores of minds, each unknown to the other, pursuing a similar line of thought and reaching similar conclusions. This has been particularly true during the past few years, when so many minds in the study of biology are bringing to light the beauty and harmony of nature guided by unerring laws.

The idea of the fibrillar arrangement of the auditory nerves in the cochlea, likening them to the strings of a musical instrument, each fibrilla being the recipient of a special tone, taught by Prof. J. A. Carmichael years ago when Professor of Anatomy in a New York medical college, was promulgated years afterward by Prof. Tyndall, in a lecture in Birmingham, England, and subsequently repeated and enlarged upon more minutely by Helmholz, of Berlin. So the theory of ether vibrations to account for vision, audition, etc., that is now exciting to a great extent the scientific world, has been also to a certain extent anticipated by Dr. Carmichael in his recent series of articles upon "Nervous Matter; What Is It?" In this connection we may also speak of the serum-therapy which Pasteur, Koch and others have so ably brought before the public, and which has, to a certain extent, passed

the crucible of experimental work, although its full practical value can only be reached by still further experiment. The idea which within the past few years has become so popular, and its developments produced such wonderful results, emanated from the brain of Dr. J. Robie Wood in the Ward's Island Hospital, twenty years ago, and was then carried into practical use. The cultures were made and used then, as now, with like results, as is shown in the record books of the hospital. This was at least five years before Pasteur, following the same line of investigation, of which, perhaps, he had never heard, and thought it original with himself, with more means at his command and with better opportunities, startled the world with an array of scientific facts which immediately received the stamp of public approval. While we bow to the genius of Pasteur and would not pluck one leaf from the laurel wreath with which the scientific world has crowned him, we cannot conceal a feeling of pride that the idea, which, in his hands, has accomplished so much for the world, originated and was nursed into vigorous life in our own hospitals.

BICYCLING.—Dr. Abbott, Secretary of the Massachusetts Board of Health, gives some interesting statistics of the proportion of pulmonary tuberculosis in females compared with males and one of the probable causes of the reduction. The rate in 1851 was 1,451 females to 1,000 males; in 1890, 1,055 females to 1,000 males; in 1895, 974 females to 1,000 males. The reduction in 1895 he considers owing to the general use of the bicycle, which compels that increase of open-air exercise so conducive to health. The old way of close-room instead of open-air exercise is, thanks in a measure to the bicycle, one of the mistaken ideas of the past. Any measure which will build up the general health and diminish the death rate of one of the most fearful scourges which has devastated the earth will be looked upon with ever increasing favor by the public. It is also a demonstrated fact that the bicycle has a tendency to enlarge the pelvis and increase the strength of the reproductive organs. This machine is not the fashionable fad of a day or a year, but has come to stay.

The wheel is now being introduced into the leading insane asylums as a great remedial agent. The rider, especially on rough country roads, is obliged to pay such close attention to his wheel that he has no time to indulge in morbid fancies and the brain cells are free to act in a healthy manner. For the time being the cloud lifts from the brain and he is practically sane. This, together with the bracing air, the active exercise, the forgetfulness of self, renewed from day to day, often accomplishes what drugs, though skillfully administered, absolutely fail in doing. The inventor of the bicycle worked better than he knew.

THE New York Diet Kitchen Association is doing a practical charity second in usefulness to no other in the city. Now diet kitchens are not soup kitchens, but are intended to supplement the work of the dispensaries and physicians by supplying to the sick poor the milk, beef tea and nourishing foods which are as essential as medicine, but which they are otherwise unable to procure. Patients applying to the dispensaries are given requisitions to the kitchens for the delicacies they need. Last year the number of patients relieved was 21,800, and the number of requisitions presented 155,043.

THE subject of substitution and imitation of articles prescribed by physicians is not only an important one to all concerned, but the practice seems to be growing.

We have recently received a letter from that sterling house, Messrs. Fairchild Bros. & Foster, in which it is shown how the public is being defrauded by some druggists of standing in the community respecting the well known products of this house, and especially as regards their "essence of pepsin." We are glad to see the courage with which the matter is taken hold of by recourse to the courts, and we have no doubt the bottom will be reached through the injunction which has been allowed against a Newark druggist by the Court of Chancery of New Jersey.

Physicians should certainly avoid sending prescriptions to any druggist whose character is in doubt in this respect.

THE indiscriminate administration of charity has apparently carried the London hospitals to the verge of bankruptcy, and now the poor public is appealed to for the deficiency, in commemoration of an important event.

If matters continue as in the past, either the poor doctors will require donations from this source or find some other occupation.

Young men should hestitate to enter a field of work where success is so doubtful.

The subject is a delicate and difficult one to deal with, but we hope the investigation will continue and a practical solution be reached.

THE Medical Society of the County of New York, at a full meeting, unanimously voted not to approve of the proposed plan of the Board of Health to make the reporting of cases of tubercular phthisis compulsory upon physicians. The discussion was animated, and showed no doubt as to the positive feelings of the members on this subject.

The consensus of opinion was in favor of a special hospital for the indigent cases of this class.

AT a recent meeting of the Jefferson Medical College, Philadelphia, Dr. J. Chalmer Da Costa was elected Clinical Professor of Surgery. Dr. Da Costa has been connected with the college for many years, and has recently been demonstrator of surgery and chief of the out-door department. The new appointment is made in recognition of his long service and valuable contributions to surgical literature.

PROF. WM. OSLER, of Johns Hopkins University, read a paper recently before the County Medical Society on the trite subject of malaria. It goes without saying that the address was practical and interesting. His differential points between malaria and typhoid fevers, tuberculosis and other affections, were clear and concise. High tribute was paid the Italian investigators, especially in the direction of blood examinations. The sudden rise and fall of temperature to normal was emphasized as an important diagnostic sign of malarial infection.

The microscope has shown that the different manifestations of malarial fever are dependent upon distinct organisms which have many points of dissimilarity. We now know that the parasite which causes the simple intermittent disappears like snow before the sun under quinine, because this agent destroys this particular parasite, and we also know equally well that quinine has no effect upon the parasites that cause the quartan or the other types of malarial fever. It is evident from this knowledge that quinine should only be administered when the blood shows the presence of the hematozoa which is responsible for this form of fever. This information also shows us why quinine is not curative in all forms of malarial fever, as has long been known, and we should be glad to accept the reason why. It is said by those who have made experiments, that the parasites which cause the other forms of malarial fever actually feed upon quinine, and that the drug is of no possible use in the treatment. This fact confirms what many of us have demonstrated practically for years without being able to absolutely prove with any satisfaction. Now it is to be hoped that our therapeutic methods will advance to keep pace with the demonstrations of the microscope.

AT the Medical Club of Vienna, Schiff recently described an agent for covering denuded cuticle under the name of filmogen. This is a solution of nitrous cellulose in aceton, combined with an oleaginous base. It forms a yellowish semi-fluid body, insoluble in water, flexible when dry, and causes no pain to the denuded surface.

PROF. ANGELO MOSSO, of the University of Turin, has invented a device by which he can measure the emotions and can determine whether the subject is awake or asleep, or whether any emotions outside of the ordinary are exerting themselves. Some very interesting phenomena have been devolved by these nice adjustments of instruments for the purpose.

The investigation is only in its infancy and much is to be expected to follow the scientific research which is being made.

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STATE BOARD OF HEALTH, NEW YORK. SIXTEENTH ANNUAL REPORT, 1896. With Maps of Sewer Systems and Sewage Disposal Works.

ORGANIC DISEASES OF WOMEN. Notably Enlargements and Displacements of the Uterus and Sterility Considered as Curable by Medicines. By J. Compton Burnett, M.D. Author of "Tumors of the Breast," etc. Philadelphia: Boericke & Tafel, 1897. 12mo, pp. 156.

INEBRIETY; ITS SOURCE, PREVENTION AND CURE. By Charles Foller Palmer, M.D., Fleming H. Reed Co., 1897.

The author in a very thoughtful presentation of his subject takes into consideration the nervous mental organization, which is very ably handled, as is also the next division of his subject, "The Remedying of the Morbid Conditions and the Strengthening of the Bases of Self-Control." The picture drawn by the author in the concluding chapter on the moral characteristics and various types of the inebriate is very real and impressive.

THE AMERICAN YEAR BOOK OF MEDICINE AND SURGERY.—Under the editorial charge of George M. Gould, M. D., collected and arranged with critical editorial comment of twenty-seven assistants; profusely illustrated. Philadelphia: W. B. Saunders.

A very useful feature of the present volume consists in a brief recapitulation of the trend and results of the years' work preceding each article. Within the ample pages of the Year Book the profession will find carefully arranged and indexed all the most important thoughts of the profession given during the past year in journalistic literature and text books.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In photo lithochromes from models in the Museum of the St. Louis Hospital, Paris. By Drs. Ernest Besnier, A. Fournier, Tenneson, Hallopean, Du Castel, Henri Foulard and L. Jacquet. Edited and annotated by J. J. Pringle, M. B., F. R. C. P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part VII., each $3 by subscription. Philadelphia: W. B. Saunders, 1897. Contents: Plate XXV., Eruptions from Bromide of Potassium. Plate XXVI., Hypertrophic Papular Syphilides. Plate XXVII., Rupioid and Early Gangrenous Syphilides. Plate XXVIII., Gangrenous Syphilides.

These illustrations chiefly represent typical cases of common diseases, with explanatory wood cuts in the text, thereby elucidating the subjects treated and aiding in the understanding of the excellent plates.

THE YEAR-BOOK OF TREATMENT FOR 1897. A critical review for practitioners of medicine and surgery. Crown octavo, 488 pages. Cloth, $1.50. Philadelphia and New York: Lea Brothers & Co.; 1897.

The Year-Book of Treatment furnishes a critical and authoritative epitome of a year's progress in all branches of practical medicine. That it has performed this service acceptably is evident from the consecutive publication of thirteen annual issues, and it may truly be said that the possessor of the series enjoys the advantage of a connected view of medical advance, always fresh and brought up to the latest date by each new volume. The whole domain of practical medicine is thus annually covered in a series of twenty-five chapters, each being assigned to a recognized authority, who gives in full detail all that is both true and new, with a critical statement of the comparative value and special applicability of the various drugs, prescriptions and methods of treatment. The work is systematically arranged and well indexed, and is an elbow-consultant always ready for instant use.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. William White, M.D., Professor of Clinical Surgery, University of Pennsylvania, and Edward Martin, M. D., Clinical Professor of Genito-Urinary Diseases, University of Pennsylvania. Illustrated with 243 engravings and seven colored plates. Philadelphia: J. B. Lippincott Co., 1897; octavo, pp. 1061.

In the preparation of this mammoth volume, our distinguished authors have given a classical treatise on an important subject. The attempt has been made to make the book eminently practical in all respects, and fully abreast the times. The subject of antisepsis and the details of operative and manipulative technique are emphatically stated, as the foundation for all good work in this specialty.

The authors have included a comprehensive study of the changes in the urine and its constituents produced by disease, which will be found of great service, and which is not usually included in works of this class. It has been the great aim in preparing the text to make the effort of practical service to general practitioners and to the medical student; and from a cursory glance we should say that the object had been attained.

The admirable photographs of Dr. G. H. Fox add greatly to the elucidation of the text, which is well illustrated throughout by numerous plates.

ANOMALIES AND CURIOSITIES OF MEDICINE.—Being an Encyclopedic Collection of Rare and Extraordinary Cases, and of the Most Striking Instances of Abnormality in All Branches of Medicine and Surgery, Derived from an Exhaustive Research of Medical Literature from its Origin to the Present Day, Abstracted, Classified, Annotated and Indexed. By George M. Gould, A. M., M. D., and Walter L. Pyle, A. M., M. D. Imperial Octavo, 968 pages, with 295 Illustrations in the Text, and Twelve Half-tone and Colored Plates. Philadelphia: W. B. Saunders, 925 Walnut Street; 1897. Prices: Cloth, $6.00 net; Half Morocco, $7.00 net. Sold only by subscription.

The title fully sets forth the plan of the book, the carrying out of which has rendered a consultation necessary of the great medical libraries of the world, and the arrangement in order of the most curious bizarre and most abnormal cases in medical literature. This record of strange cases will not only interest the curious, but furnish material for the medical expert in making up an opinion when life or reputation are at stake. Expert medical testimony should be fortified by a full citation of parallels to any remarkable theory or hypothesis advanced. The reputation of a widow may be saved by the citation of cases in which pregnancy has exceeded nine months, and the strange idiocyncrasy of the human system in cases where large doses of poison have been taken without harm may save life. The work is a vast library to the curious and the expert.

THE DISEASES OF THE STOMACH. By Dr. C. A. Ewald, Extraordinary Professor of Medicine at the University of Berlin, Director of the Augusta Hospital, etc. Translated and edited, with numerous additions, from the third German edition by Morris Manges, A. M., M. D., Assistant Visiting Physician to Mount Sinai Hospital, Lecturer on General Medicine at the New York Polyclinic, etc. Second revised edition. New York: D. Appleton & Co., 1897; pp. 602; octavo.

It is now five years since the first American edition of this work was issued, and in order to keep up with the progress in this department of practice a new one is justified. It is based upon Prof. Ewald's third German edition, which was a complete revision of the earlier one. The editor has added much new matter and thirteen illustrations which are not in the original.

Prof. Ewald's work has always been considered as that of a master hand, and its usefulness is manifested by the publication in many languages.

The book, based upon lectures designed for general practitioners and students, represents an extensive practical experience which cannot fail to be of service to such as may require it.

The text is written in an interesting manner, easily read, and is concise and practical, abounding in the best of common sense. We are glad to observe that the subjective symptoms are not ignored, but are accepted for what they are worth to the diagnosis.

No one will fail to find the book useful and satisfactory, either as a text-book, or as a work of reference.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the use of students and practitioners. Fourth and revised edition. By James Nevins Hyde, A.M., M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago; Dermatologist to the Presbyterian, Augustana and Michael Reese Hospitals, of Chicago, and Consulting Dermatologist to the Chicago Hospital for Women and Children, and Frank H. Montgomery, M.D., Lecturer on Dermatology and Genito-Urinary Diseases, and Chief Assistant to the Clinic for Skin and Venereal Diseases, Rush Medical College, Chicago; Attending Physician for Skin and Venereal Diseases, St. Elizabeth Hospital, Chicago. Illustrated with 110 engravings and twelve plates in colors and monochrome. Lea Brothers & Co., Philadelphia and New York, 1897; pp. 808; octavo.

The demand for a fourth edition of this practical and excellent work shows that a popular want has been met. New chapters have been added, or the old re-written on something like fifty subjects, and nearly every page has been altered and improved.

The omission of obsolete material has enabled the authors to make the additions and changes without increasing the size of the book. Three new plates and five new engravings serve to enhance the value of the illustrations. A marked feature of this work has been the careful revision with which each edition has been characterized, so that the text is perfected and brought fully to date. The general scope of the work is the same as in previous editions. It is evident from the demand for this issue that the practical usefulness of the book is appreciated by students and practitioners.

The physical part of the work is most excellent.

CORRESPONDENCE.

CONCERNING HYGIENE FOR WOMEN.

A very decided advance must be made in the hygiene of living of American women, if our nation desires to develop normally.

We are only too well aware that, while the American girl is remarkably attractive, she is, generally speaking, not robust, and the families of native born Americans are not large.

A recent article in THE MEDICAL TIMES concerning the decreasing birth-rate of the French people should be a decided object lesson for Americans.

The evils which, in that country, threaten to be a national misfortune, are to be found in our own land among America's fair daughters.

An interesting contrast to all this has appeared recently in the *London Standard*, an editorial concerning the fecundity of the German people.

As upon the theatre stage we witness the reward of virtue and the punishment of vice, so in comparing German with French life we can readily observe what faithful attention to the laws of health, with temperance and chastity duly considered, will accomplish for national strength and prosperity.

On the other hand, we can see what the neglect of these laws will bring about in weakening and reducing the population of an otherwise prosperous country like France.

The hope of a nation is to be found in its healthy and vigorous children; these are the nation's jewels, and without these no country can be truly great or prosperous.

W. THORNTON PARKER, M.D.

THE LETHAL CHAMBER.

"If the majesty of the law has the power and the right to take human life for cause does it not follow, it has been suggested, that the majesty of the law has the power and the right to put an end to the existence of a poor, miserable and hopeless *non compos mentis?* And would not the latter be an act of humanity and mercy?

"With the present rate of advancement of science civilization and humanity, who would dare say that the twentieth century will not have a lethal chamber in which easy and merciful death is produced upon that class of unfortunates who can never recover from a painful and hopelessly incurable disease or injury?"

The foregoing appears in the *Texas Medical News*—conducted, if we are not mistaken, by a layman. *We*, certainly, will not venture to predict what new functions "the majesty of the law" may or may not assume in the near future. Of one thing, however, we feel quite sure, namely, that no reputable medical man will ever consent to have anything to do with carrying out the suggestion so approvingly referred to by our Southern contemporary. The business of the physician and the surgeon is to assist nature in throwing off diseased conditions, and incidentally to relieve suffering; never, under any circumstances—either directly or in their capacity of advisers—to cut the thread of human existence, save only in those rare instances where a more valuable life is rescued by the sacrifice. We trust that the *News* will subscribe to this, and will also allow us to ask whether, "with the present rate of advancement of civilization and humanity," the matter of securing a more "merciful death" for *victims of Judge Lynch*, in certain portions of our common country, does not claim its first attention.

G. L. F.

TWELFTH INTERNATIONAL MEDICAL CONGRESS.

In a letter dated Moscow, February 14th, the Secretary-General, Prof. W. K. Roth, communicates the following facts for the information of the American physicians who intend to participate in the Twelfth International Congress, which is to be held at Moscow from August 19th to 26th.

The transatlantic steamship companies refuse one and all any reduction of the usual charges.

Reductions of fares on Russian railroads are expected shortly. The French, Spanish, Swedish and Hungarian railroads promise a reduction of 50 per cent.; so do the Italian for a distance of 500 kilometers; less (down to 30 per cent.) for shorter distances. The Mediterranean lines (Messageries Maritimes, General Italian Navigation Company, Austrian Lloyd) grant from 25 to 50 per cent.

The undersigned chairman is not authorized to issue certificates of any kind in favor of congressists. He will try to ascertain, however, in which way their movements may be facilitated, and may receive a reply in the second half of April. Extracts of papers to be read before any of the sections ought to reach the Secretary-General before June 1st in order to be printed in the preliminary volume.

A special prospectus containing the final details referring to traveling, lodging, festivities, etc., is promised for a near future. It will be communicated at once to the medical journals and to the press of the country.

A. JACOBI, M. D.,
Chairman National Committee.
110 West 34th Street, New York, March 10, 1897.

IKSHURGANDA: A HINDOO REMEDY.

Messrs. Editors: The Ikshurganda is indigenous to India, and has been in use as a medicine a very long time by the Hindoo physicians of India. We find its medicinal properties described in the ancient Sanskrit medical works supposed to have been written several thousands of years before Christ. As far as I know the medicine is up to this time unknown to the medical profession of other countries. The entire plant, but more particularly the fruits, are used in medicine. They are described in Hindoo medical works as cooling, diuretic, tonic and aphrodisiac and are used in painful micturition, calculous affections, urinary disorders and spermatic derangements.

I have used it in my practice with great success in spermatorrhœa and some sorts of impotency. In spermatorrhœa it does the office of a cautery, and much more, as aconite does the work of lancet in simple acute fever.

It is useful in the following kinds of spermatorrhœa and seminal debility; at least I have found it so:

(1) When the disease is caused by the thinness of seminal matter.

(2) When it is caused by excess.

(3) When it is caused by irritation or chronic inflammation of the prostatic glands, seminal vesicles, etc.

(4) When it is caused by masturbation.

It is useful in both diurnal and noctural emissions. It is useful in the following kinds of impotency:

(1) In impotency caused by masturbation and accompanied by spermatorrhœa, but the vice had not been committed to such an extent as to have damaged the nerves entirely.

(2) In partial impotency or seminal debility caused by excess.

(3) In impotence caused by the diseased state of tastes, secreting thin, watery, seminal fluid.

(4) In impotency accompanied by such urinary troubles as painful micturition, inability of the bladder to keep the urine for a long time, etc.

It must be understood that it is more suitable as a remedy for partial impotence and seminal debility than a thoroughly confirmed case of impotency where the sensation and erection are entirely lost.

It can be with great benefit used by old persons getting weak seminally day by day.

As a specialist in genital diseases I have had the opportunity of using this remedy in more than one hundred cases of spermatorrhœa and seminal debility with success. I generally give in tincture from 5 to 20 drops a dose in an

ounce of water, three times a day. I have never used it in diluted form and so cannot say whether it will be useful in that way. GANGADIN, M.D., B. S. C.,
London, Feb. 27, 1897. *Native of India.*

[This remedy can be had at the pharmacy of Boericke, Runyon & Ernesty, 497 Fifth avenue, New York.—ED.]

To Members of the Medical Profession, Individually, in the Interests of Medical Science:

As there is evidence tending to prove the theory that all persons predisposed by heredity to consumption have a respiratory capacity or action insufficient for good, vigorous health, probably a proportionately small chest with insufficiency of lung membrane—that the predisposition is mainly or primarily due to this cause; in other words, that the insufficient respiratory function is the special primary feature of the predisposition (a condition which may be, practically, acquired by habit, occupation, etc.) I desire the co-operation of the profession in an endeavor to help to establish, by means of collective investigations, the correctness, or otherwise, of this theory.

In this behalf I hereby ask all physicians who have patients predisposed to, or in the early stage of, consumption, to send to me (on a post card will suffice) the information below indicated. As soon as I can study and collate the replies I shall make the results known to the profession.

Give (1) name (or initials); (2) sex; (3) age; (4) occupation; (5) height; (6) weight (average, when in usual state of health); (7) circumference of the chest on a level with sixth costo-sternal articulation when momentarily at rest after an ordinary expiration, and also (8) after habitual natural expansion or inspiration (which last (8*a*) usually exceeds the first measurement, expiration (7), by an increase of only about one fourth of an inch); finally (9), the circumference after a *forced* expiration and also (10) after a forced inspiration (these two measurements, 9 and 10, varying or showing a range of from one and a half to four inches). The patient should of course be as calm as possible, and had better, usually, practice the *forced* breathing for a few acts before these two last measurements, 9 and 10, are taken.

To be of value all four measurents should be taken as carefully, accurately and free from haste as possible.

Any further information, in brief, as to degree of heredity (family history) in cases, *prominent* symptoms, loss in weight, cough, dullness on percussion, etc., or any remarks, will be a decided advantage.

Measurements of two cases, or several, or the average, could be given on one card.

With the hope that many will comply with the above request, and with much respect for and interest in the profession, I am, Yours truly,

EDWARD PLAYTER, M.D.,
Ottawa, Ontario.

THE COMMUNICATION OF SYPHILIS FROM CHILD TO NURSE.

The Court of Paris has just rendered a decision of the greatest interest in a case—unhappily very frequent—and one that should engage the most careful consideration of physicians in order to avoid serious trouble and danger to professional reputation. The case is as follows: The parents, B, gave their infant to be nursed by a woman, G, who lived in the country. On examination the nurse was pronounced to be absolutely healthy, and the infant equally so.

After the lapse of two months, the local physician was called in, and he declared the nurse to be affected with a chancre of the breast, and that the child gave manifest indications of secondary syphilis. He immediately charged the nurse to give up nursing the child, and to have no relations with her husband. Soon afterward the infant died with cachexia, and the nurse's little girl, and her husband, also became contaminated. Then the parents G sued the parents B, and held them responsible for the injury done by their child.

It was during this condition of affairs that the "Tribunal of the Seine" rendered a decision by which the demand of the nurse was rejected for the three following reasons: First, that the parents G could not prove that it was the infant of the parents B that had communicated the disease to the nurse. Second, that they had not proved that the infant B had syphilis when it was intrusted to the nurse G. Third, that even supposing that the infant was affected with the disease, they had not proved that its parents had any knowledge of it.

The Court of Paris took up the case on appeal of the parents G, but could not, like the Tribunal, accept the plea of the plaintiffs, and after having heard the opinion of the eminent Prof. Fournier, rendered the following decision: Whereas, from the report of the doctor it did not appear that the infant B was from its birth affected with a contagious disease, and that syphilis of hereditary origin did not manifest itself in the child for several weeks thereafter, and that it then communicated the disease to the woman G, its nurse, and considering that, without doubt, the fact that a person affected with syphilis, by placing his or her child out to nurse, to be nurtured at the breast, may be guilty of a fault that may constitute responsibility; that whereas a practical examination of the parents B by an expert did not reveal to him that there were any syphilitic conditions, nor vestiges of anterior syphilitic accidents, that under these circumstances the expert could not testify that either the father or the mother could have transmitted the disease to the child, and because of the failure of G to give this proof, and to establish a charge against the defendants for personal fault or liability, for these considerations the court decided that the demand of the plaintiffs was unsupported by the evidence, and was therefore dismissed.

It may be remarked that this arrest, while proclaiming the personal character of the parties accused, and the impossibility for the magistrate to condemn "in globo" the presumed authors of the offense, and while their veritable culpability could not be determined, the fact should be carefully remembered that a person attainted with syphilis may, by placing an infant to be nourished at the breast, be guilty of an act that may involve his or her responsibility. It therefore results from this decision that when a child shall have communicated syphilis to a nurse, and that it shall be possible to recognize that its parents have transmitted the disease to it, they, the parents, shall certainly be declared responsible. In the above case the physician was not at fault, but it may happen that he may be held responsible for the least negligence, and this, in effect, was the decision of the "Civil Tribunal of Amiens," on August 12, 1893. When the physician of a family has agreed upon the selection of a nurse, and he continues his professional visits to the home of the nurse at the expense of the parents, and syphilis is communicated to the nurse, she, the nurse, may hold the parents of the child and the physician equally responsible. The physician cannot claim that he engaged the nurse on account of the parents, that it was not for him to reveal the disease with which the child was afflicted, nor that his silence could constitute a fault of omission involving responsibility.

J. A. C.

A correspondent of an English newspaper states that when a Parisian doctor is called upon to attend a new patient, even though the case be a most urgent one, he first consults a book fittingly bound in black, and if he finds the sick person's name recorded there he declines to go. For in this "Black Book" is a list of the names of those who have received medical services, but who, though pecuniarily able, have refused to pay their doctor's bill. The book is issued by the great medical society of Paris, whose members have agreed to observe strictly the rules, which came into effect the first of last year. These rules provide that each physician shall keep a careful record, which he shall forward to the officers of the society at stated intervals, of the names of those whom he has attended who have refused to pay him his fee.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

The Benefits of Inanition.—M. Chauseau presented, in the names of MM. Tessier and Guinard, a communication upon the slight influence exercised by the most powerful and virulent poisons upon animals in a condition of inanition. While dogs in a healthy state, and inoculated with the same quantity of toxine, died in a very short time, those that had been deprived of food for a few days, and presented all the characteristic indications of inanition, were only slightly affected by the poisons. MM. Tessier and Guinard endeavored to reach some therapeutic conclusions from their observations, but they were not accepted.

Hygiene in the Manufacture of Matches.—M. Magitot did not think it necessary to use red phosphorus. According to him, the phosphorism and necrosis will disappear with the employment of white phosphorus, if care be taken to secure sufficient ventilation, and if a selection is made of the workmen, employing only those in whom there is no buccal nor dental lesion. Among the workmen habitually employed in the making of matches in the factories of Alger, and Aix, in Provence, health is universal and accidents rarely occur, and it is only among those whose physical condition is deteriorated by their unwholesome surroundings that the maintenance of health is impossible. Such are the conditions of the factories of Pautin-Aubervilliers, and they should be suppressed.

Argon in the Blood.—MM. Schloesing and Regnard reported experiments upon the presence and quantity of argon in the blood. They found that the blood of the horse contained twenty cubic cm. of azote and fourtenth cubic cm. of argon. It is known that argon accompanies azote in atmospheric air, and hence not remarkable that it should be met with in the blood. The volume of these two gases in the blood is double that which is dissolved in water under atmospheric pressure. They thought that there was formed between the azote and albuminoid matter an unstable combination, but the presence of argon, which combines with such difficulty, renders this hypothesis untenable. The role played by azote and argon in the blood is really unknown.

ACADEMY OF MEDICINE.

Eucaine and Cocaine.—M. Reclus: Before placing entire confidence in the testimony of experimenters beyond the Rhine, who so loudly boast of the benefits of eucaine, I have made numerous experiments according to my previously reported method for cocaine, and the following are my conclusions: Eucaine is a good local anæsthetic, but it presents a certain number of qualities inferior to cocaine, viz., action less profound, same with its vaso-dilator power, and its analgesic period is more limited in duration, while its toxicity is not in less degree. From the researches of M. Pouchet, the toxicity of eucaine is at least equal to that of cocaine. Indeed, contrary to what occurs in the action of the latter, poisoning by eucaine does not announce itself by any premonitory sign, and death supervenes suddenly and before there is time to counteract it. Hence among surgeons, who desire to use eucaine, it is absolutely necessary to use the greatest precations for local anæsthesia, if they wish to avoid serious consequences.

Mucous Septicæmia.—M. Cornil read, in the name of M. Barbes, a communication upon this subject. At the autopsy of a subject, all the blood vessels were found of a certain calibre, especially those of the meninges, and filled with a whitish mucous substance. The red globules were destroyed, and there were numerous leucocytes, broken into fragments. Microscopic examination revealed the presence of a bacillus—mucogen—which has the property of producing, "in vitro," mucous transformation of the blood, and disappears in proportion as the transformation is produced, which explains why it is ordinarily not easily found. Hence it is that M. Bates has given the name of mucous septicæmia to this disease, in which also all the organs are found extremely anæmic.

Autoplasty.—M. Delbet presented a patient with an extensive burn upon the back that had been healed by the successive employment of all known autoplastic methods, the Indian, Italian, the ancient methods, the method of migration, and those of Le Fort and Thiersch. Two interesting points grow out of this observation. First, that the epidermic layers taken from other persons—in this case from the husband of the patient—were easily adapted and promoted the success of the operation. Second, that epidermic layers may be taken from parts already utilized, the epidermis of the new formation taking as easily as that which it has replaced.

The Introduction of Vaccine Into France.—M. Hervieux denied before the Academy the pretention of, according to a physician of Rocheport, named Bobe-Moreau, the honor of having introduced vaccine into France, which has heretofore been always attributed to the Duke La Rochefoucauld-Liancourt. M. Viand contended that the inoculations practiced by Bobe-Moreau at Rochefort were several days in advance of those made at Paris by La Rochefoucauld. M. Hervieux easily proved that there was no comparison between the advance of a few days and the important and various acts that had preceded the Parisian inoculations. The investigations made in England by M. Rochefoucauld, first, of vaccination, of its harmlessness, its advantages, and its prophylactic value; second, of the system of subscriptions by means of which the propagation of vaccine in France was organized, the labor and expense necessary to complete the organization for vaccinal operations, and the immense services rendered by it, could not be placed in comparison with the few days of advance claimed in favor of Bobe-Moreau, whose vaccinations had never extended beyond the limits of Saintonge.

The Role of the Spleen in Infectious Diseases.—M. Laverau: Of all infectious diseases paludism presents the most characteristic lesions of the spleen. In acute paludism pathological anatomy shows the spleen to be hypertrophied and softened, and transformed into a sort of brownish mass, in which the microscope reveals a great number of hematozoa and pigmentary elements. In chronic cases, when the patient has succumbed to an inter-current malady, if there are no hematozoa in the blood, they are always in the spleen. In the same cases, during the periods dividing the attacks, puncture of the spleen always reveals parasites, even though examination of the blood shows negative results. On the other hand, every injury of the splenic region in patients of this kind is followed by a renewal of the symptoms of paludism. Finally, when splenectomy for ectopia of the spleen is performed, pernicious attacks are renewed, but they are remarkable for their mildness. From all these facts I conclude that the spleen is an organ of protection for the organism against paludic infection, but that it is on the contrary an asylum for hematozoa, and, as in all infections, the study of the pathological anatomy of the spleen will suggest analogous observations. We see that the role of the splenic organ in these diseases is very far from resembling that usually ascribed to it.

Radiography Applied to the Surgery of the Nervous System.—MM. Chipault and Loude presented radiographic proofs relative to the surgery of the cranium, brain, vertebræ, medulla and the peripheral nervous system, which show what valuable information can be furnished by the X-rays, provided always that the apparatus employed shall possess great power, and the period of application shall continue for twenty or thirty seconds.

Operative Cure of Otitic Phlebitis of the Lateral Sinus.—M. Chipault: Otitic phlebitis of the lateral sinus has been considered nearly always fatal, and as absolutely inaccessible to curative measures. Based upon statistics that have already reached importance, my investigations prove the necessity for speedy and thorough intervention, as extensive as possible. My method consists in tying successively the internal jugular vein in the neck, and the transverse sinus as near as possible to the Torcular Hero-

phili, in opening the diseased sinus and curetting completely. Sinuso-jugular drainage, with subsequent daily lavage, will insure the cure. This method has the special advantage of isolating the septic locality from the venous current. Intervention, as long as it is limited to venous ligation, is only palliative. It becomes curative from the moment that total ablation of the septic lesions has been effected. The young girl I present to you was perfectly cured in seventeen days, thanks to this method, one year ago, by M. Albin Lambotte, of Auvers, of a very dangerous phlebitis of the lateral sinus, consecutive upon a purulent discharge from the ear.

BIOLOGICAL SOCIETY.

M. Meunier described the cocco-bacillus of influenza of Pfeiffer from his researches in broncho-pneumonia of children, and in which he very frequently found them. He also proved that the broncho-pneumonia which appears to be isolated and sporadic is no less connected with an epidemic of grip, and that the microbic association which complete and complicate infantile broncho-pneumonia, viz., streptococci, pneumococci, staphylococci, etc., are only, at the time of an epidemic, infectious, superadded to the microbe of Pfeiffer.

Retroactive Amnesia Following Excess of Physical Work.—M. Ch. Féré: Retroactive amnesia, comprehending a period more or less long anterior to the accident which produces it, is met with as a consequence of nervous shocks of different varieties, viz., traumatic, emotional, poisonous, convulsive or impulsive attacks of epilepsy, etc. It may also occur as a result of physical exhaustion, as I have seen in one case. The subject, after a very long bicycling tour, fell into a profound sleep that lasted fourteen hours. On awaking spontaneously, he seemed astonished and unable to realize his surroundings, and thought himself to be with friends at Limours, where he had had breakfasted. He retained no recollection of his comrades nor of the road he traversed for five hours preceding his sleep, and the retroactive amnesia comprehended at least a period of four hours, admitting that in the last stages of his ride he was unconscious. It is well to remark that this form of amnesia is not rare after sonambulism.

Etiology of Botulism.—Dr. Van Ermengem presented photographs representing the accidents of alimentary origin, that showed the characteristic physiognomy of botulism. The products of culture of a microbe taken from a ham possessed an extremely active toxine, which caused, among other phenomena, persistent mydriasis, prolapsus of the tongue, dysphagia, aphonia and motor paresis. The animals that received the toxine, viz., an ape and guinea pig, succumbed upon taking very minute doses of the microbic product, and the study of the lesions of the nervous system gave some very interesting results. In a communication recently made to the Society, M. Marinesco described the alterations in nervous cells which he had observed in animals inoculated in the author's laboratory. The toxine of the botulimic microbe acts upon the walls of the vessels, and hemorrhages were observed at different points of the cerebro-spinal axis and in certain organs.

M. Giraud described an epidemic of curious characteristics that occurred and continued for some time in the village of Loubens, Haute Garonne. Associated with very marked and typical cases of typhoid fever, there were observed all the forms and symptoms of cerebro-spinal meningitis, opisthotonos, trismus, contraction of the limbs, consecutive paralyses, etc. Besides these well-defined forms, there were mixed cases in which the characters of the two affections seemed to be associated. The bacillus of Eberth could not be detected, but the coli-bacillus was found in abundance, also the streptococcus and diplococcus. This tends to prove that the ingestion of water, though it may not be specifically contaminated, may yet engender typhoid fever, and perhaps, as in these cases, assume abnormal and unusual forms.

Gastro-intestinal Hemorrhage and Vaso-dilator Effects Produced by the Pneumo Bacilline.—In a series of experiments upon a dog, and by injecting variable doses of the pneumo bacillus bovis, either in the jugular vein or the mesenteric, MM. Tessier and Guinard obtained, very rapidly, bloody emesis and abundant sanguinolent stools. Death supervened in a few hours, and the autopsy revealed extensive inflammatory lesions of the intestinal mucous membrane, with blood, more or less pure, in great abundance, intestine so distended with it as to resemble a large vessel, blood black, brilliant, uncoagulated. These effects are due to the powerful vaso-dilator influence of these poisons, and to the eliminative force of the intestinal mucous membrane. The congestion, though general, is more marked in the abdominal system than elsewhere, because of the physiological impressibility of the vaso-dilators of this region. Then the possibility of rapidly producing gastro intestinal hemorrhages by the injection of perfectly sterilized microbic toxines, finds a new demonstration in these experiments with pneumo bacilline.

Action of Marmorek's Serum Upon the Streptococci of Scarlet Fever—Seven streptococci taken by MM. Mery and Lorrain, three from the throat, two from the urine, one from a glandular abscess, and one from the blood, served as experimental agents. Of the seven, six presented identical characteristics, viz., long chains, large grains, easily localized upon the articulations following the subcutaneous inoculations, and presenting a special resistance. These six streptococci showed themselves to be absolutely refractory to the serum. The seventh, on the contrary, was clearly influenced by it, and presented morphological characters distinct from the six others.

Mode of Action of Cardiac Poisons.—The death of the heart of the mammiferæ that have been electrized or poisoned by any one of the following poisons: Digitaline, strophantine, ouabaïne, taughinine, cironiline, anagyrine, is nearly identical, as shown by M. Francois Frank, with digitaline and strophantine. The ventricles, more or less violently tetanized, cannot contract rhythmically, and the characteristic trembling produced by one or the other of these two influences, becomes more and more feeble until there is a cessation of all ventricular movement. All these poisons, digitaline, strophantine, ouabaïne, taughinine and anagyrine, which produce ventricular trembling in the heart of the mammiferæ, kill the heart of the frog in systole. On the contrary, under the influence of the poisons called diastolic, such as muscarine, saponine, the heart of the mammiferæ never shows a sign of trembling, but it is arrested in diastole—same with the heart of the frog. Consequently ventricular trembling may be regarded as analogous to that condition of permanent contraction to which the poisons called systolic rapidly bring the heart of the frog. Ventricular relaxation, which we often see in the autopsy of animals poisoned by digitaline or by any other of the supra-indicated poisons, is a phenomenon consecutive upon tetanization, and is purely passive. All these substances, whatever may be the animals upon which they act, have a definite and identical action.

SURGICAL SOCIETY.

Surgical Treatment of Exophthalmic Goitre.—M. Lejars: I have recently operated upon an exophthalmic goitre, and, although the result was fatal, I report this case, which may serve to establish fixed operative methods. It was that of a young girl of nineteen years, who had the three symptoms of Basedow's disease. Although the goitre was small, the operation was decided upon. The cardiac and nervous symptoms were very prominent and caused much suffering. The operation was very simple, and the patient passed a comfortable day, until the evening, when dyspnœa became intense, pulse very rapid and death occurred suddenly.

Autopsy revealed nothing that could explain the sudden death, and not a nervous fillet was wounded during the operation. There was only a large thymus. We supposed that death was due to acute bulbar poisoning from thyroid hypersecretion. Many cases of sudden death under similar circumstances are reported in medical literature. Halle, in particular, has noted twenty-three in 190 operations. M. Tillaux said: At the beginning of my career, I believed that in all exophthalmic goitres the nervous symptoms were due to the compression of nerves by the hypertrophied thyroid body, but have changed my opinion, and I now divide the goitres into two classes, the medical

and the surgical, the latter alone justifying an operation In the first category I enumerate the true exopthalmic goitres, or those in which the thyroid body is simply hypertrophied, and those which contain a tumor. These last may be operated upon without accident, because the tumor may be removed without touching the gland. The first should not be operated upon because of the risk of fatal accidents such as happened to M. Lejars. As proof of what I advance, I recall a case in which the patient presented all the symptoms of Basedow, and there was a tumor in the thyroid body. This was removed several years ago, and all the morbid symptoms had disappeared, but recently they have reappeared with recurrence of the tumor which I shall again remove. This seems to demonstrate clearly the relations between thyroid tumors and nervous symptoms.

MEDICAL SOCIETY OF THE HOSPITALS.

Respiration of Cheyne-Stokes in Asystole.—M. Barlè reported two cases in which, in the course of an attack of asystole, the respiration assumed the Cheyne-Stokes type after the administration of digitaline; both men were cured. The respiratory rhythm was such as to suggest a fatal prognosis, but the renal insufficiency was not so great as to cause uremia, which presents itself generally in the course of an asystolic attack. In the asystolic form of arterio-sclerosis, the cerebral circulation is diminished by the thickening of the arteries, and if the patient should survive the asystole, this circulation becomes absolutely insufficient. Again, as has been declared by M. Rendu, it is only after the administration of digitalis that the Cheyne-Stokes respiration occurs, for this remedy seems to act as a vaso-constrictor and increases the spasm of the cerebral vessels. In these conditions morphine acts as a corrective when administered in small doses.

Syringomyelia with Autopsy.—M. Achard reported the result of an autopsy of a syringomyelic. The disease was unilateral, medulla atrophied one-half, no bacilli of Hansen; patient presented the panaris characteristic of Morvan's disease. M. Jeanselme said: In Brittany I have seen patients affected with syringomyelia with achromatic plates. Bacteriological examination did not show the bacilli of leprosy.

THERAPEUTIC SOCIETY.

Treatment of Chloro-Anæmia.—M. Fernet criticised the report of M. Barbier upon this subject. He reproached him with having too much confounded chlorosis with anæmia. He thought that iron is hurtful to the majority of anæmics. The cause of anæmia should be sought for and combated, and that the counter-indications for iron and tonics are numerous. Iron is not a specific for chlorosis. A simple regimen should be given at first, and afterwards progressively increased and improved. The treatment of chloro-anæmia is more hygienic than medical.

Aortic Ectasy.—M. Béclère presented a radiographic photograph, which verified the existence of a double center of pulsations.

Pulmonary Surgery.—M. Tuffier experimented with the view of avoiding pneumothorax in pleuro-pulmonary operations. He succeeded in keeping the lung attached to the parietes by slightly increasing intra-pulmonary pressure, by tubing the larynx and causing the animal to breathe compressed air. As respects the superiority of pleural stripping and a pleural incision for examination of the lung, he thinks that every time stripping is possible it should be done, and he recognized the fact that a pleural incision, if made small, can be done perfectly without producing dangerous pneumothorax.

Treatment of Uterine Diseases by the Electrolized Oxychloride of Silver.—M. Boisseau du Rocher described the method of treatment as follows: A silver hysterometer should be introduced into the uterine cavity, connected with the positive pole of a battery with continuous current, the negative being placed upon the integument in the form of a moist plate. Electro-chemical reactions ensue, resulting in the formation of the oxychloride of silver, which represents the remedial agent. This method of treatment yields very rapid results, generally immediate, against hemorrhages, metrorrhagiæ, menorrhagiæ, and decongesting action of electrolized oxychloride of silver manifests itself for a long time after the operation; as proof, the permanent diminution of volume of fibroid tumors. For metritis this treatment also gives speedy results; the metritis from gonococci is the most quickly cured. Many observations of pyosalpinx also prove that in certain cases a salpyngian collection may be voided by the natural passages, and these cures of uterine diseases can be effected without confinement of the patient to bed. The method is perfectly harmless, provided 10 milliamperes are not exceeded.

The Bubonic Pest: The Sanitary Situation in India.—The last official dispatches sent to the British Government upon the subject of the plague, comprehend a report of the Sanitary Council representing the situation as being very grave. At Bombay alone there were nearly 500 deaths during the week from this cause alone, in a total of 1,758, which marks an increase of 170 cases over the preceding week. On January 28th the official report gave 4,396 cases at Bombay, and 3,275 deaths. Up to the present time there were at Kurrachee 694 cases, with 644 deaths, and at Poona 65 cases and 60 deaths. A few cases have been reported at Surate, Barod, Ahmedabad, Kattywar and Autch. Two Europeans had died at the hospital. At Kurrachee the number of cases and deaths had increased in fearful proportions. At Bombay 150 prisoners in the Government penitentiary were inoculated with the serum prepared by Dr. Yersin, and only one of them had died. J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York.

Treatment of Ascites by Injections of Oxygen Into the Peritoneum.—At a recent meeting of the Lyons Société Nationale de Médecine, a report of which appears in the *Province Médicale* for July 4, 1896 (*N. Y. Med. Jour.*), M. Teissier related the case of a woman who came under his care for ascites with generalized œdema. He treated her according to M. Potain's method of abdominal puncture followed by injections of oxygen into the peritoneum. At the first puncture about fourteen pints were withdrawn, but no amelioration occurred, as the liquid collected again in six days. A second puncture was then made and followed by the injection of 1,300 cubic centimetres of oxygen. The operation was very well borne, and it did not provoke any pain or local reaction. There was also complete absence of fever during the following day.

The abdominal circumference diminished from 128 to 102 centimetres, and the œdema of the lower limbs disappeared very rapidly. The oxygen was easily absorbed by the peritoneum. For some days there was some gurgling, but this disappeared at the end of eight or ten days. At the present time the abdomen still measured only 102 centimetres and sonorousness existed everywhere, even in the iliac fossæ, when the patient lay on her side. She was able to get up every day and walk in the open air. These results had been obtained in three weeks.

The patient entered the hospital suffering from alcoholic cirrhosis, and after her entrance the liver increased in size and cardiac symptoms presented themselves. The diagnosis, said M. Teissier, might be open to discussion, but that was of secondary interest only. He presented the case because he had seen the grave symptoms disappear in three weeks under the influence of an injection of 1,300 cubic centimetres of oxygen into the peritoneum.

Chronic Otorrhœa Permanently Cured with Trichloracetic Acid.—Halasz confirms Okuneff's announcement of the value of this treatment (*Therap. Woch., Jour. Am. Med. Asso.*), and recommends the following *modus oper-*

andi: As the pain is severe 5 to 8 drops of a 10 per cent. solution of cocaine should be held in the ear for three minutes. During this time a syringe of tepid water should be used to melt the crystals of the acid on the specially constructed sound. The inner ear is then lighted and the sound introduced into the middle ear through a rubber ear speculum. Every spot to be cauterized should be touched lightly, but effectively with the acid, especially the edges of the perforation and the mucous membrane of the middle ear. The ear should then be rapidly rinsed out with one or two syringes of water, and after it is dry, dusted with aristol or powdered borax blown in. The operation should be rapid and repeated once or twice a week, when the otorrhœa soon disappears, the perforation in the drum closes, and the hearing is completely restored.

Mechanical Treatment of Enuresis.—Dr. Sanger, of Leipsic (*West. Med. Rev.*), recommends a course of systematic dilation of the urethra in cases of enuresis, in women and female children. His plan is to introduce a catheter well into the bladder, keeping the thumb over the aperture. The instrument is then firmly pressed backward and to each side from eight to a dozen times. It is, of course, useless to make any pressure interiorly, as the pubes lie immediately in front. Ten or twelve sittings are usually sufficient. During the treatment the patient is directed to control the sphincter as much as possible by the will, to drink but little, and to keep the abdomen warm. The good effects of this method are to be ascribed to increased power gained by the sphincter in consequence of its contractions after dilation and stimulation. It is useful when the paralysis is of central as well as when it is of peripheral origin. When, however, the neck of the bladder and the whole urethra are of very large calibre, it is useless, and in such cases a plastic operation is required.

The Spray Method in Chronic Bronchitis.—Dr. Arthur Davies, at a recent meeting of the Hunterian Society of London, read a paper on the treatment of chronic bronchitis (*Charlotte Medical Journal*) in which he emphasized the value of the spray method. This was carried out by frequent administrations of ipecacuanha wine three to four times a day. At each sitting from half a drachm to one drachm of the drug was used, but the patient was directed not to swallow the wine. Successful cases were quoted. These showed relief from difficulty of breathing and lessening of the expectoration. The disadvantages of the inhalations were that sometimes vomiting followed, and if the drug were used pure spasmodic dyspnœa would sometimes come on; and it was not suited for cases of asthma. Dr. Davies had tried a spray of potassium iodide with encouraging results. The class of cases suitable for treatment with the ipecacuanha spray were early cases with much dyspnœa and tenacious sputa. He had also found much help from the administration of trinitrine, the dyspnœa especially being relieved. When the dyspnœa was moderate tar in various forms was found useful.

The Therapeutic Range of Lactophenin.—Von Jaksch mentions lactophenin as useful in typhus, others found it decidedly beneficial in articular rheumatism, insomnia, occipital neuralgia, frontal headache, the headache of typhoid fever, migraine, neuralgic pains generally, pneumonia, erysipelas, influenza, polyarthritis, scarlatina, sepsis, sciatica, headache attending round gastric ulcer, headache and sleeplessness in Bright's disease, bronchitis, acute gastritis, diphtheria, measles. It is reported to have relieved megrim and nervous headache in twenty minutes, and that in one to two hours after 15 grains were taken a quiet sleep began which lasted several hours. In croupous pneumonia the breathing improved, the cough of phthisis florida was lessened, an excited patient became calm and felt easier and better. It has been substituted for salicylic acid with advantage, and reduced pain and swelling in twenty-four hours.

Personal observation enables me to corroborate the findings of other physicians as to the superior analgesic and antipyretic effects of lactophenin, its safety and promptness of action.—*Dr. S. V. Clevenger, in Journal Amer. Med. Assn., January 30, 1897.*

RETROSPECTIVE DIETETICS.

Diet in Chronic Heart Disease.—On this "most important topic," Dr. Thos. E. Satterthwaite (*Med. Rev. of Revs.*, February, 1897), speaks as follows: I agree with Grainger Stewart, who has recently reviewed the new methods of treatment in cardiac diseases, that the nitrogenous food should be increased, while the carbo-hydrates should be reduced; but I do so for two reasons. First, that a less amount of food is required by the body; and second, that by diminishing the carbo-hydrates we lessen fermentation, and so reduce to some extest gaseous distention of the stomach and its necessary result, pressure on an already distended heart. But I am opposed to in any great measure restricting the use of the carbo-hydrates, because they are needed to supply energy to the system. With these qualifications as to the kind of food, it will be seen that I favor a *mixed diet.* It is common to advocate a diminished use of liquids, but in many cases, as where lithemia is associated with cardiac disease, there is an excess of uric acid found in the secretions. In these cases I advocate liberal potations of fluid. Chemistry teaches us that uric acid is readily dissolved in water, and practical experience shows us also that lithemia is greatly benefited by this liquid. Hence I favor the free use of water, and am opposed to the so-called *dry diet* system. But I do not advocate taking large quantities of fluid with the meals. Fluids should in these cases be taken between meals, if a large amount is to be taken. Nor is it always safe to cut off alcoholics abruptly. Theoretically it may be advisable, and it should be our *aim* to do it. Practically, it may be best to go slowly and gradually reduce the daily amount. Indeed, I have been in the habit of directing patients with heart failure to take whiskey in small quantities with their mid-day or evening meals, and also to have some at hand in case of faintness during the night. The amount should be small, and women usually get along with less than men. The amount cannot be stated in ounces. Every case must be a law to itself. Where it is practical, however, diffusible stimulants, as for example, the aromatic spirits of ammonia, may be substituted with benefit for alcoholics. Tobacco, coffee and tea, as a rule, are to be prohibited, and yet there are notable exceptions as to coffee and tea. Sometimes coffee is so great an aid to stomach digestion that it is almost indispensable. Tea if taken should be weak. In these matters experience, skill, intelligence and tact, on the part of the physician are of the very first importance.

Diet in Phthisis.—The *Charlotte Medical Journal* directs as follows:

The day is past when such advice as eat anything you want and plenty of it, can be given to such a case with safety. Let us have a reason for what we do. Let us feed our patient according to well-known physiological laws, and with a scientific and accurate knowledge of what and how much he needs. It does not make one particle of difference whether the bacilli are found in the sputum or not. Whether the case is tubercular, hereditary, a result of the influenza, or whatever the cause, the fact is that he responds to treatment just as quickly in one case as in another. Pay no attention to his plea that he "cannot eat meat." Put him at once upon a diet of broiled beef pulp and hot water, exclude all other foods and drinks and wait for your results. It will not be long before the stomach accepts the terms offered and goes to work in earnest. The appetite returns, and then the trouble is to keep the patient from eating too much.

The exclusive beef diet is to be kept up till the urine is clear and free and the appetite good, when a gradual enlargement of the diet along the line of whole meats, eggs and bread may be carefully entered upon. Fats and starches should be used carefully at first, till they are readily digested without acid fermentation. The cereals may be used when well cooked, but vegetables are best avoided. All desserts, sweets, made dishes and fried foods should be forbidden. Meats are best used freshly broiled or roasted.

The "Schott Method" of Gymnastics in the Treatment of Chronic Disease of the Heart.*—The treatment to which I desire to call the attention of the society is a portion of the so-called Nauheim treatment of cardiac disease, which was inaugurated some twenty years ago by Drs. August and Theodor Schott, and has recently found its way into English literature, chiefly through the writings and labors of Dr. W. Bezly Thorne, of London.

The method of exercise is called by Dr. Schott *Widerstandsgymnastik* — resistance-gymnastics. Perhaps the best way to English this term would be to call it *resisted exercises*, but this alone would not convey the idea. "Swedish movements" are resisted exercises, too; but this system is differently carried out. "Gently resisted movements" would perhaps convey the idea better. The patient makes very slight efforts with various muscles, and these are resisted very gently by the operator. As the treatment progresses the resistance is increased, calling upon the patient to put forth greater exertion. There is a course of exercises laid down by Dr. Schott, the whole occupying from thirty minutes to one hour, but the number and degree of movements are varied according to the patient's requirements. With my patients only twenty minutes' exercise has thus far been attempted.

Dr. Schott says that his system consists of slow movements made by the patient and resisted by the operator, short intervals being allowed for rest. The exertion should be small and the patient should be loosely clothed and told to breathe quietly. This matter of quiet breathing is highly important. It must be watched and controlled by the operator. The resistance should not be of such a kind as to prevent the patient feeling master of the situation. The operator must not grasp or in any wise constrict the limb, but oppose by the hand held flatly. The following rules are laid down:

1. Each movement is to be performed slowly and evenly, that is, at a uniform rate.

2. No movement is to be repeated twice in succession in the same limb or group of muscles.

3. Each single or combined movement is to be followed by an interval of rest.

4. The movements are not allowed to accelerate the patient's breathing, and the operator must watch the face for the slightest indications of (*a*) dilation of the alæ nasi; (*b*) drawing of the corners of the mouth; (*c*) duskiness or pallor of the cheeks and lips; (*d*) yawning; (*e*) sweating; (*f*) palpitation.

5. The appearance of any of the above signs should be the signal for immediately interrupting the movements in processs of execution; and for either supporting the limb which is being moved, or allowing it to subside into a state of rest.

6 The patient must be directed to breathe regularly and uninterruptedly, and should he find any difficulty in doing so, or for some reason show a tendency to hold his breath, he must be instructed to continue counting in a whisper during the progress of each movement.

7. No limb or portion of the body of the patient is to be so constricted as to check the flow of blood.

The system advised begins with the upper extremities, goes to the trunk, then to the lower extremities, and concludes with a return to the upper extremities. The motions include extension, flexion and rotation, or circumduction.

The following is the list of exercises:

(1) Arms extended in front of body on a level with shoulder, hands meeting; arms carried out until in line and brought back to original position.

(2) Arms hanging at sides, palms forward; arm flexed at elbow until tips of fingers touch shoulder, back to original position; one arm only moved at a time.

(3) Arms down, palms forward, arms carried outwards and upwards until thumbs meet overhead; back to original position.

(4) Hands in frcnt of abdomen, fingers flexed so that second phalanges touch those of opposite hand; arms raised until hands rest on top of head; back to original position.

(5) Arms down, palms against thighs, arms raised in parallel planes as high as possible; back to original position.

(6) Trunk flexed on hips; return to original position.

(7) Trunk rotated to left—to right; return to original position.

(8) Trunk flexed laterally.

(9) As No. 1, but fist clinched.

(10) As No. 2, but fists clinched.

(11) Arms down, palms against thighs, each in turn raised forwards and upwards until arm is alongside of ear, then turned outward; arm descends backwards.

(12) Arms down, palms to thighs, both together moved backwards in parallel planes as far as possible without bending the trunk forward.

(13) Thighs in turn flexed on trunk, opposite hand resting on chair.

(14) Lower extremities in turn extended fully, and bent on trunk forwards and backwards to extreme limits of movements, opposite hand resting on chair.

(15) Legs in turn flexed on thigh; both hands on chair.

(16) Feet together, lower extremities in turn abducted so far as possible and brought back to original position, opposite hand on chair.

(17) The arms extended horizontally outwards, are rotated from the shoulder-joint to the extreme limits forwards and backwards.

(18) The hands in turn are extended and flexed on the forearm to extreme limits and brought back in line with arm.

(19) The feet in turn are flexed and extended to extreme limits and then brought back to their natural position.

The following are the results to be obtained by the baths and exercises at Nauheim:

(1) Diminution in the frequency of the pulse, with increase in its force and fulness; (2) Contraction of the heart, as shown by diminution of the area of cardiac dulness and recession of the apex-beat upward and toward the median line. (3) Slower and deeper breathing, with a sense of lightness and relief in the chest; (4) A better color of the lips, and improved facial aspect; and (5) when that organ has been congested, a marked diminution in the size of the liver. Furthermore, after a few days of systematic administration of the exercises there is usually observed marked and often long-maintained diuresis. Pathologic effusions are often entirely removed.

Dr. W. Bezley Thorne says: "The results, in fact, are such as would scarcely be believed by any one but an eye-witness. It is by no means uncommon in cases of dilatation to see within one hour the oblique long diameter of the heart's area of dulness diminish by from three-quarters of an inch to an inch and a quarter, and perhaps more surprising still to observe a diminution of as many as two inches, in vertical measurement, of a liver, which at first extended to the umbilical level; and to hear the patient, at the conclusion of what cannot be described as an ordeal, volunteer the statement that a load has been removed from the precordia, that he breathes easier and more deeply, and experiences a sense of general relief. Such gains are not permanent, and in the time that intervenes before the next day's exercises or baths, as the case may be, the dilated and congested organs tend to their former size, but do not wholly relapse. A slight proportion of the gain is held . . . until, as the result of treatment, perhaps at the end of a few weeks, the dilated heart and the congested liver have recovered their normal dimensions, or at any rate such contraction and compensatory power in the one case, and resolution in the other, as to make them practically sound."

The counter indications against the treatment in the entire range of chronic cardio-vascular affections are advanced arterio-sclerosis, decided degeneration of the cardiac muscle and aneurism.

Dr. Thorne states that he has witnessed improvement amounting to practical or actual cure in cases presenting the physical signs usually regarded as indicative of the following affections: Stenosis of either the aortic or the mitral orifice, stenosis of both, insufficiency of either or

* Extracted from a paper read before the Philadelphia County Medical Society, January 27, 1897, by Solomon Solis-Cohen, M. D. *Phila. Polyclinic*, March 6, 1897.

both, with attendant dilatation; dilatation consequent on myocarditis, on habitual hemorrhage, and on constitutional anæmia; fatty heart (interstitial); weakened heart; congenital mitral insufficiency; patent foramen ovale, and angina pectoris of apparently both neurotic and organic causation. He adds that "it is reasonable to assume that measures, calculated to diminish peripheral resistance, and to promote the nutrition and repair of the cardio-vascular tissues must be applicable to, at least, the early stages of aneurism of the heart and great vessels."

The physiologic mechanism by which this is accomplished is, in brief, that the gently resisted movements, carried out as described and demonstrated, dilate in turn the peripheral vessels in every section of the body, and distend the lymph-spaces; thus by employing for therapeutic purposes the pumping action of the muscles, relieving the veins and securing increased filling of the arteries and better emptying of the heart. In other words, there is increase of the volume of circulation in both arteries and veins, with better filling of the vascular system generally, including lymph-channels and lymph-spaces, thus affording a much larger peripheral area for the blood. The left heart is better emptied by invitation of the blood out of the capillaries, the arterioles, the larger arteries, the aorta; while back pressure upon the left auricle being reduced, the right heart is relieved through the pulmonary circulation, and thus the veins are still further emptied, the congested liver often markedly diminishing in size. In effect the peripheral pump is substituted for the central pump of the circulation, and the latter being able to contract upon the lessened quantity of blood, now becomes able to do its work once more, and all this without the use of any drug.

The Function of the Hair in Man.—Exner has published in a recent number of the *Wiener Klinische Wochenschrift* (*Boston Med. and Surg. Jour.*) an article on this interesting subject. He states at the outset that the disposition of the hair on the different parts of the body always serves a definite object. The study of the descent of man and of embryology has shown that our ancestors were entirely covered with hair, as are the anthropoid apes. According to Darwin the gradual disappearance of the hair is due to the repulsion felt by women for hairy men, and their liking for the opposite; that is, to sexual selection. In the same manner he explains the exaggerated development of the hairy scalp in women, and of the beard in men, for in women the long hair and in men the beard have always been considered as attributes of beauty.

As to the physiological functions of hairs, it is admitted that they are modified sense organs, which have lost all connection with the nerves. It is probable that in primitive man the distribution of the hair upon the body was irregular, and that the length, color, structure and thickness of the hair varied with functions for which it was intended. The hair which has been left upon the body in the process of evolution, has been left there for a definite purpose. Certain hairs serve as organs of touch, notably the eyelashes, the bulbs of which are surrounded by a network of nerve fibres, and in a less degree the hairs of the eyebrows. Both these serve to protect the eyes; for being sensative they give warning of danger, so that reflex closure of the lids is produced. The eyebrows also prevents drops of sweat from running into the eyes, while the eyelashes keep out dust. The eyebrows and lashes also serve a purpose in sexual selection. The down which covers the body is also endowed with tactile sense; the hair in the region of the genitals and anus being the least sensitive. A thick growth of hair is also found in those parts of the body where friction must take place between contiguous cutaneous surfaces as in the axillæ, groin, perineo-scrotal and perineo-vulvar regions. By experiment with pieces of skin covered with hair, Exner has shown that the hairy covering markedly diminishes the friction of the cutaneous surfaces.

In animals the hair serves to maintain and regulate the heat of the body, but in man the hair of the scalp alone serves this purpose. Hair is itself a poor conductor of heat, and retains air, also a poor conductor, in its interstices.

The fact that the forehead is not covered with hair Exner explains on the theory that in the contest between the natural tendency of the hair to protect the head against changes of temperature and the tendency of human nature towards beauty, the latter has prevailed more easily because the non-conducting properties of that portion of the skull are increased by the air containing frontal sinuses, and that that portion of the head is easily protected from the heat of the sun by inclining the head forward.

The Absorption of Iron in the Intestine, and Its Relation to the Blood.—In the *Presse Médicale* for February 10th M. Chassevant states that M. Cloetta has made some experiments in regard to the elimination of iron in the economy (*Archiv für experimentelle Pathologie und Pharmakologie, 1897*). For this purpose he used ferratin, which exercises no caustic action on the tissues. His experiments demonstrated that, in dogs which were subjected to a milk diet, the iron injected into the veins in the form of ferratin was eliminated by the large intestine. Quincke had also ascertained this by micro-chemical examination. The author also investigated the means of assimilation of this element when administered by the digestive tract, and he found that 20 per cent. of a dose of ferratin introduced into the stomach of a dog subjected to a milk diet was absorbed.

Experiments made by Cloetta with new born dogs demonstrated that the presence of iron salts in the food was not immaterial to the formation of hemoglobin, that there was no absorption of iron salts, and that the liver seemed to regulate absorption in the same way as it did glycogenesis.

Walcher's Position.—The late Dr. Fothergill (*Fort Wayne Med. Jour.*), read a paper on Walcher's position, which is to have the patient lying on her back on a table, with her sacrum on the edge, and her legs dependent, the feet being clear of the ground. The effect of this is to cause a rotation of the ilia on the sacrum and to increase the antero-posterior diameter of the pelvic inlet, while diminishing that of the outlet. Another effect which Dr. Fothergill had observed was relaxation of the perineum. He had made careful measurements with the woman in this position, and had found that the conjugate could be increased by as much as one third of an inch. This manœuvre should always be tried before resorting to symphyseotomy or craniotomy.

OBITUARY.

THE death of Dr. Lewis Hallock removes from the ranks of our profession, at the age of ninety-three years, the oldest practicing physician in the State. We say the oldest practicing physician, for Dr. Hallock continued in the intelligent discharge of his professional work until within a few months of his death. Even the last year of his life he could be seen in his carriage driving from the house of one patient to another, many of whom were the children and even grandchildren of those whom he had brought into the world in the early days of his practice. Born in the third year of the present century, Dr. Hallock laid aside his armor and passed to his eternal rest only three years before the century will expire. A pupil of Dr. John W. Francis, he was known as the Chesterfield of our profession.

Dr. Hallock graduated at the College of Physicians and Surgeons, in 1826. In the same class were Dr. John F. Gray, Benjamin F. Joslyn, H. G. Bunnell and W. L. Palmer, all of whom have left a bright record in the annals of that new school of therapeutics whose influence has been so marked for good in the medical profession of the city.

Amiable in disposition, courteous in manner, clear in intellect, and of undoubted integrity in the closing years of his life, he was looked upon with reverence and love by the profession to which his whole active life had been devoted.

MISCELLANY.

—There were sixty-nine cases of typhoid fever in New Haven last fall, all traceable to milk supplied by one dealer.

—Archbishop Corrigan has recently dedicated a new chapel at Bellevue Hospital, erected by the family of Arthur Leary to his memory.

—The title of LL.D. has been conferred on Dr. Alexander J. Skene, of the Long Island Medical College, Brooklyn, by the University of Aberdeen.

—*Cancer.* A recent writer recommends for this disease the application of chloride of chromium, incorporated with stramonium ointment. The tumor in a few hours is converted into carbon and crumbles away.

—The inhabitants of Tierra Del Fuego, magnificent specimens of physical development, go about in the ice and snow of their cold land with no clothing on at all, and declare themselves entirely comfortable.

—Rome is fast ceasing to be a malarial center, according to the *Medical Press.* The population of the city is about 467,000, and the number of deaths from this disease has decreased from 650 in 1881 to 125 in 1895.

—*Asthma.* The severe form of asthma commencing with bronchial catarrh, when a whole band of discordant sounds seem to be issuing from the chest, is said to be greatly relieved by pulmo vulpis, first trituration.

—When conception occurs the triple phosphates of the urine lose their feathery appearance. The shaft assumes a jointed appearance. These changes commence within twenty days after conception, and are most marked in the early months.

—In Germany a law has recently been enacted which holds the advertiser as well as the newspaper publishing the advertisement responsible for the assertions made therein. If a promise to cure is made and the remedy fails, prosecution is liable.

—A portable crematory, adapted to the needs of an army in the field, has been devised by a Polish engineer. It is drawn by horses, and is designed to burn the bodies of soldiers killed in action. A similar method has been adopted by the German Army.

—The *Semaine Medicale* states that the Paris Court of Appeals recently decided that the fact of marrying before being cured of a venereal disease, and knowingly communicating it to the other party in the marriage, is sufficient cause alone to allow a divorce.

—Brandt, in the *British Med. Journal,* says: Light a wax vesta, and apply the flame close to the skin until a blister is formed. If it contains serum, the person is still living; if, on the contrary, it contains only gas, it will burst with a small explosion, and life is extinct.

—The purest water known is that of the small Swedish river Loka, which in 100,000 parts contains only 0.434 parts of mineral substance; the Thames, at London Bridge, contains in the same quantity of water from 69 to 70 parts; the Seine, in Paris, 23 to 24, and the River Jordan 139 parts.

—Dr. Geddings, of the Marine Hospital Service, is, by the appointment of the President, to represent this country at the Sanitary Conference called by the Italian Government to consider the existing plague in India. Dr. Geddings, after visiting India, will return by way of the Pacific Coast.

—Dr. Siebert, of this city, advocates the filtering of milk through cotton. He finds that the oil-globules pass through the cotton, and that three-fourths of the germs are eliminated by the process. Filtration is thought to be as valuable as sterilizing, with the objectionable features of the latter absent.

—Dr. Duncan, Professor of Dermatology in the Woman's Medical College, St. Louis (*Amer. Jour. of Surgery and Gynæcology*), asked his senior class the name of the first layer of the skin. One young lady answered in a clear voice, and to the consternation of the other members of the class: "The foreskin."

—Two private hospitals have recently been established in St. Louis, in which the members of the association supporting them may be treated free. The fee for membership in the association is 50 cents a month. A new health insurance society in California is cheaper than that, as it provides free medical attendance to all who will pay $5 a year.

—Dr. Cook, who was with the Peary expedition, says the Eskimo girls do not begin menstruating until they are eighteen or twenty years of age. It has, however, been stated that they conceive and bear children at a much earlier age, a fact which has been adduced to show that there is no necessary connection between ovulation and menstruation.

—A physician says (*Pop. Sci. News*) that he has sometimes been able to convince persons subject to visual illusions, that the fancied figures were not real by asking them to push one eyeball up a little with the finger. This makes all real objects in their neighborhood appear double, as any one can prove to himself, but it does not double the false image.

—It appears that the medical service at our Columbian Exposition is regarded by the Parisians as an unattainable ideal, absolutely beyond their power to realize during the celebration in 1900 Baudouin, of the *Progres Med.*, remarks that he actually had to lie down on one of the beds in the hospital *in side the grounds* at Chicago to convince himself that he was not dreaming.

—A malpractice suit was recently brought in the State of Indiana under the following circumstances: The patient had tibial necrosis. Destruction of the bone was so extensive that the surgeon determined to transplant bone, and used the femur of a large mastiff. The patient made a good recovery, but brought suit against the surgeon for "having thus produced in her an uncontrollable impulse to lift her leg when she passed a telegraph pole."

—The Roentgen rays should be visible, Dr. Brandes, of Halle, has assumed, to an eye from which the lens has been removed, as in the treatment of cataract. He has succeeded in finding a girl who can see the rays with her left eye, from which the lens has been taken, while her right eye, which is normal, sees nothing. He asserts that the rays affect the retina, and that the light can be seen by normal eyes if the head be enclosed in an opaque vessel near the source of the rays.

—Lawson Tait, in a recent communication to the Buffalo *Medical Journal,* takes occasion to remark that "women in themselves" (referring, of course, to *English* women) "have not the slightest idea of cleanliness, save on the surface, and unless they belong to the really well-educated classes. This is a fact which no one knows so well as he who has gone through the filthy drudgery of a gynæcological out-patient department, where fifteen out of sixteen of the patients have lice or fleas upon them, and often both. This is the material from which the great bulk of the so-called trained nurses are obtained, and with their training, unless most especially well looked after, they alter their habits only in the sense of the smart cap and attractive uniform. They remain as dirty as ever."

—The origin of the word "deadhead" is explained as follows: Fifty years ago the principal avenue of Detroit, Mich., passed close to the entrance of the plank-road leading to Elmwood Cemetery. As this cemetery had been laid out some time previous to the construction of the road, it was arranged that all funeral processions should be allowed to pass along the latter toll free. One day, as Dr. Pierce, a well-known physician, stopped to pay his toll, he observed to the gatekeeper: "Considering the benevolent character of our profession, I think you ought to let us pass free of charge." "No, no, Doctor," replied the gatekeeper, "we can't afford that. You send too many deadheads through here as it is." The story traveled around the country and the word "deadhead" was eventually applied to those who obtained free admission to the theatre.

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M.D., New York.

Identica-Similia-Contraria

(*By these signs we will conquer.*)

Part 2.—The Sero-Therapy of Similarity.

"WHAT is truth?" said jesting Pilate, and would not stay for answer.

What is truth? so ask we all; but that absolute monarch, *Pride of Intellect*, hushes every answer which may shake his throne.

Could we honestly ask that question, so vital in all affairs of time and eternity, then humbly and cheerfully hear and heed the voice of the oracle, however much it might bruise the vanity of preconceived notions of truth or error, how grandly would our world move onward and upward!

Many years ago the highest court of a mighty nation was called upon to decide a question of great moment to a poor man who had brought suit against the Government itself. His claims had been fully sustained in all the lower courts; but when he came before his nation's most august bench, that body of wigs and wisdom evidently had sent their brains and law to Coventry, for the decision rendered was, in effect, that *John Smith forfeited all his legal rights when he stood on his head.*

The suit was for infringement of a patent, the judges deciding that although exactly resembling the complainant's it was not an infringement, because the defendant had applied his device *upside down.* Of course this is not the phraseology, but it is the substance of the decision.

Are we any less absurd in our medical decisions?

In the application of diphtheritic anti-toxin to that dreaded disease, there are medical men, very few, thank God, who insist that the law of *identity* is not considered in this and other anti-toxins. No one knows what is the curative principle in this wonderful serum which so often shakes its fist at death and compells it to fly; but men do say that true diphtheria carried through the vital fluids of living animals comes forth an angel of healing.

Here again John Smith suffers reverse—in other words diphtheria mixed with horse and thereby or therein sufficiently diluted so as to prevent intense aggravation by overdosing with too much diphtheria, is not an application of the law of *identity.*

But, says another, it is no longer diphtheria—the anti-toxin secured by this manipulation is an entirely different thing. If that is the case why not apply the serum of the horse pure and simple—are we sure that if used with the same confidence without introduction of the diphtheritic matter that it would not produce as good results? Certainly it is not immunized blood; for a child—lately recovered from cowpox or variola has immunized blood—but will serum taken from such a source cure smallpox? When we learn to be perfectly just and cheerfully accept defeat and profit by it, there will be an absolute certainty of medicine bounding forward as splendidly and rapidly as surgery has done during the last decade—and not one moment sooner. "The forlorn hope," composed of men who put *truth* and *duty* before human respect have by their heroic devotion prevented medicine from becoming a wretched tramp without principle or purpose Such noble souls while living were maligned and persecuted, dying honored and obeyed, and their memories cherished as "footprints on the sands of time."

There is strong evidence that one such hero, Paracelsus, was foully murdered for his bitter opposition to the stupidities of the physicians and apothecaries of his time. Another crossed the threshold between the last and this century. So unusually magnificent was his offering to mankind that medical men have not ceased to dishonor his name, even after his poor body has been long laid at rest. But the incoming, which will probably be the grandest century on the records of time, will bring garlands of glory to weave around his memory. Not many years ago an able Scotch physician "re-discovered the screw," and declared that for certain cases of blood stasis in disease he found that drugs which produced a similar stasis of great curative value; and then, terrified by the shadow of this brainy old German hidden behind the thought, he fled precipitately from his position.

Years ago Dr. S. Henry Dessau courageously read a paper, which did much to awaken attention and remove prejudice, before a section of the Academy of Medicine, on "The Power of Small Doses," wherein he gave instances of the remarkable efficiency of minute doses of certain remedies in relieving and curing conditions which resembled the primary action of these drugs.

The respectful attention and assent of those present proved that swords were ready to be drawn even for a despised and maligned truth.

There are many more true and earnest men in all schools than little ones; but it is sad to see that even noble men are influenced by the noisy, insignificant few. One cur will set twenty mastiffs barking at they know not what.

The bitter opposition which has so constantly antagonized great truths will undoubtedly continue, whenever new truths are presented, under the hollow pretence of *conservatism.* It has been said with infinite satire that if such conservatives had existed at the dawn of Creation, when God said: "Let there be light!" they would have protestingly cried: "*Hold! Disturb not the eternal chaos!*"

However crude in its present form, identity as one law of sero-therapy has the confidence of the majority.

In the early future similarities and antagonisms will surely become even greater forces, not only in sero-therapy but also in general therapeutics. No armies of prejudice can longer stay sincere seekers after truth. Medical men begin to see the

necessity of honest and earnest inquiry, and will not tolerate reasonless scoffing.

How often have professional men who hesitated to acknowledge truths, been chagrined to find the so-called ignorant masses thinking and acting for them. Peruvian bark is not the only precious drug dishonored as an outcast by our profession until grown in strength, beauty and usefulness under the fostering care of the common people, then claimed as a child of our own nurturing.

In my previous paper attention was called to the fact that the immortal Jenner had caught a passing glimpse of a general law of similitudes as a curative measure, deduced from his great discovery of cowpox inoculation. I shall endeavor to elaborate the subject as far as possible with the limited time and means at my command. As heretofore stated, in 1875 I first began experiments in the sero-therapy of *identity;* but, unfortunately, did not include acute contagious diseases in those studies. Eager to find a remedy for tubercular diseases, and later, cancer, my attention was constantly fixed upon those maladies. The fruitless results after many years of effort caused me to regret having been tempted away from certain other experiments which I had instituted *several years before* 1875. Those earlier attempts were suggested to me by Dr. R. C. Furley's treatment of smallpox with injections of vaccine lymph. I followed his experiments in the same direction; but it was some time before the possibility of this being a general law occurred to me. Dr. Furley published an account of his treatment of variola in the early part of 1872.

Jenner had noticed the modifying influence of *herpes* upon the course of both vaccine and variola during the latter part of the last century.

It has always seemed strange to me that Dr. Furley's vaccine *serum-therapy* was not more seriously considered; but it will assuredly be thoroughly studied during the early part of the twentieth century.

I have frequently regretted my inability to carry out these ideas in a thorough and scientific manner. Want of financial means, opportunity and capacity, prevented my developing a therapeutic serum, which may become one of the greatest boons to suffering humanity during the next century.

The law of *antagonism* in sero-therapy, as well as in all other therapies, I shall try to discuss in my next paper. A later article will be devoted to suggestions of the probable application of all these laws in general therapeutics.

Identity must needs be confined to sero-therapy alone, while *similarity* and *antagonism* will cover a very wide therapeutic range.

What is meant by a *sero-therapy of similarity?*

The most perfect example, as I have before stated is found in *vaccine, in its relation to variola*; here we find a very great *similarity* (*not identity*) in several of its manifestations, especially in the pustules.

Cowpox used as a preventive has been a world-wide blessing; but if it gives a key to a more extensive application of serum to disease it will surely merit the highest monument of the purest marble and of the greatest beauty that man can offer to a law of cure.

Of course, preventive measures, general hygiene, mental, moral and physical, are of the first importance; but there will ever remain many serious conditions demanding remedial measures. Hygiene alone cannot prevent or remove all physical afflictions, as we shall find to our sorrow; therefore therapeutics will long hold a place in the affections of suffering humanity.

How shall we find these similarities from which to obtain a curative serum?

It would be an endless task to name all the sources wherefrom we may gather material; but I may be able to lay down some general rules.

First, it will be well to examine the animal kingdom, beginning with man; next, the higher grades of the lower animals, then reptiles, insects, etc., and finally the mineral and vegetable kingdoms.

That there are many diseases resembling others physicians who have suffered days of doubt too well know.

The important point is to discover the closest parallel possible.

There are many maladies which have a slight or fancied resemblance to others—such as herpes, varicella and variola; also the counterfeits of scarlet fever and measles. This list could be continued for pages, but as it is probable that we will not be compelled to seek such therapeutic serum from human beings, it is needless to enumerate them, especially as a study of the lower animals will yield richer rewards. As our knowledge of their diseases is limited, we may be obliged to labor long before securing satisfactory similitudes. Fortunately means are at hand to bridge the interval.

For artisans, we appeal to those great accumulating and constructing forces of science; comparative anatomy, with its wonderful lessons of man and beast; physiology, with its tireless, life-searching eye; chemistry, with its never ending experiments; botany, with its beautiful mirror reflecting the vegetable world from root to branch, flower and fruit; and then *philosophical minds*, capable of co-ordinating the special investigations of all the material workers, and reasoning by the aid of ascertained facts, from cause to effect and from effect to cause, until many of life's mysteries are solved. Unaided materialism will soon or late surely be dashed against rocks eternal.

When the human eye, assisted by the highest microscopic power attainable, has reached the limits of material possibility, then the neglected vision of the mind will search successfully through the great unknown, where the smallest microbes, as we know them, may be gigantic to a world of infinite littleness, which is far beyond the grasp of all save the intellect's endless reach.

"We have explored the entire universe," says Tyndal, "and have now reached the outer rim beyond which there looms another universe, one which will forever loom." To this an eminent man has thus replied: "Over that rim and into

that universe we can, independently of revealed truth, by the inherent and cultivated power of intellect lead you, O learned professor, and tell you many secrets which your limited vision, darkened by contemplating the earth alone, can never perceive."

So will it be with medicine when it has reached the outmost boundaries possible to material investigation; then the long-scorned philosophical intellect shall once again resume its rightful throne.

With such means we may bridge the interval, and when it is not possible to find similar diseases to those we wish to treat, we may successfully appeal to the mineral and vegetable kingdoms; and where a deficiency still exists the reptile and insect world may supply our needs, directly or indirectly, as I shall explain later.

The advantage of using serum from *similar* diseases is: 1st. That there is not the same likelihood of aggravating the malady treated as there is in using anti-toxins from *identical* diseases. 2d. Because there is a probability that the *similar* diseases found in lower animals cannot be conveyed to man. 3d. The study of *similar* pathalogical conditions in these animals offers opportunity to learn if there are antagonistic microbes and their true characteristics. This would be a long stride in the right direction.

A careful study of the diseases of domestic and wild animals will reveal many startling similarities. Having found them, the question arises: how, when and where the serum is best obtained.

In the case of cerebral diseases it would be most rational to procure the serum from the substance of the brain or its investing membranes. In spinal diseases and all other morbid conditions it would seem well to secure the serum from the tissues or organs most commonly affected. When depends upon the character of the disease.

The serum thus obtained may be used *directly*, by first attenuating it in some suitable fluid; or *indirectly*, after carrying the disease through another animal.

The *preparation* of serum is so broad a subject, and as my own experiments in this direction have been crude and unsatisfactory, I shall not repeat them here. Others will be able to carry this out more perfectly than I have ever done. Now what are we to do until similar diseases are found? It has long been known that symptoms and conditions resembling nearly every known disease can be produced by the introduction of vegetable, mineral and animal poisons. Almost every emotion has been simulated under the influence of drugs.

But it is from reptile and insect poisons that we may obtain the similitudes of the most virulent maladies. The least fatal of these toxicants produce the most extensive counterfeits of serious diseases. One species of water snake has caused symptoms closely resembling malignant growths. It would amaze us to see how many pathological conditions can be produced by vipers and insects; from the rattlesnake and gila monster to the tarantula of South America and that of Cuba. There is hardly a diseased condition, physical, mental or moral deformity, that they cannot produce. We can use their venom directly, or by applying serum from animals inoculated with it. From these pestiferous creatures many sufferers may yet receive precious blessings of restored health. We may learn to produce any condition at will, and from animals thus artificially diseased obtain efficient serum.

Many centuries ago it was a belief or superstition that certain plants could be made to absorb disease while growing, and extracts prepared from them would cure the same diseases as those that were used to inoculate the plants, which, it was fondly imagined, in some mysterious way transformed the diseases into healing balms. The plants chosen for this purpose were those which bore some real or fancied resemblance to the disease itself, either in root, bark, stem, leaf, flower, fruit or juices. These were a few of the ideas of that peculiar sect called the *School of Signatures*, which ideas were possibly gathered from savage tribes. Paracelsus spoke of these procedures with great respect. When we stop to think does it seem one whit more absurd than injecting diptheritic toxin into a horse to produce an antitoxin? Had the two propositions been seriously made to the *Academy of Medicine* thirty years ago they would have caused boisterous laughter or supreme contempt; but of the two the physicians present would have said that the injection of disease into living plants, expecting the peculiar influence of plant life to produce a curative principle, was certainly the more reasonable.

Could we but imagine the absurdity of some of our medical fads of to-day, as they will be viewed by our medical posterity of 2097 we would doubtless feel exceeding cheap. On the other hand, some of the theories treated as despised absurdities to-day may be, aye, undoubtedly will be, recognized as foundation stones of a more perfect temple of medicine. Then the image in stone or bronze of him, whose name we hardly dare to utter in polite medical society to-day, will occupy one of the highest pedestals nearest the immortal Greek, Hippocrates, in that future sanctuary of medical benefactors.

Let us rapidly review this *sero-therapy of similarity*.

First: We are to seek serum from diseases in the animal kingdom *resembling, but not identical with*, the diseases we wish to treat.

Second: Failing to find such similar diseases, we may produce in animals symptoms or conditions like the diseases, by introducing animal, vegetable, mineral, reptile or insect poisons; and when the symptoms are most intense secure serum for application.

Third: We may apply toxicants directly to the disease itself from these various sources—but especially from plants, vipers and insects. Several points herein touched upon will be more fully elaborated when the subject of the sero-therapy of antagonisms is taken up; but more extensively when general therapeutics of the future is reached.

Some may object that this theorizing on future therapies is like a few ancient philosophers who

having built upon imaginary foundations without sufficient facts to guide and sustain them, they often fell into error; but we must acknowledge, that considering the paucity of facts at their command they often builded well.

What is here written is founded not on imagination, but on facts, which are everywhere; we breathe them from the very air.

For almost a quarter of a century I have experimented in these directions. They have been crude attempts and comparatively fruitless; but others have in a measure succeeded who have followed me on one of these roads.

The suggestions here offered for future experiments have come from uncertain but sincere gropings after truth. To reach truth we must use every effort to get hold of sound principles, guided by the starlight of facts and the sunlight of reason.

INUNCTIONS OF LEAF-LARD IN CASES OF EMACIATION.

By George Boody, M. D., Independence, Ia.

Assistant Physician Iowa State Hospital, Independence, Ia.

IT is my great pleasure to bring before you today these patients and to report the results of experiments made by myself on leaf-lard inunctions in cases of malnutrition with emaciation, though the time over which they have been extended is very short, and the number of cases few, for they have been carefully carried out. the improvement in each case so marked and the tabulations as accurate as it was possible for the observer to make them. It was in February of this year that Dr. A. L. Warner, first assistant in the hospital at Kankakee, gave in correspondence information regarding some work along this line which has been carried out there, and asked that a trial be given on some cases in this hospital. So favorable was the report, and so rational the line of treatment, that it was resolved to give it an immediate trial. Accordingly, on March 2d, three cases were selected, a fourth on April 7th, and the following is a short history of each case, together with the method of administration and the result in each:

Case 6,657, B G. Admitted into the hospital March 1, 1896; age, 19 years; weight, 98½ pounds; height, 5 feet 10 inches; hair, light brown; eyes, hazel, and complexion light. He is a slender male with a fairly well developed body, but there is no evidence of panniculus adiposis over any part of the body, and emaciation is extreme, as seen by comparison of former weight (135 pounds) with present weight (98½ pounds). The muscles are very small, and patient will not submit to tests of muscularity, but the constant muscular resistance which is present is evidence that it is still quite good. The skin is normally white, but rather dry, a little roughened, and is drawn tightly over muscles and the projecting portions of the skeleton. Temperature of the body is normal, head round and rather prominent in region of ears, which stand out from the head; face slightly elongated, broad in upper half and thin and sharp in lower. Other than this all the organs of the body are normal as to function, except the heart, which beats slowly, and the tones are enfeebled; pulse, sixty per minute—small, soft, regular and easily compressible. All the sensations and all the reflexes are normal. His general appearance is that of acute atrophy.

His mental condition is that usually found in mild melancholia. Though the mental powers do not give any evidence of being damaged to any noticeable degree, though he seems to understand well all that is said to him, yet there is some physical impotence, inasmuch as the mental processes are slowed and somewhat difficult. He tries to speak, but some time elapses before the idea he wishes to express finds utterance in words, and when he does finally articulate, it seems to require considerable effort to do so. There is a sad expression upon his face, he thinks he is without friends, there is marked motor restlessness shown in his slowly moving about when up, and when changing his position while in bed and in removing bedding. There is a muscular resistance, as seen in his doing just the opposite to that which the nurse tries to do for him; he resists being dressed and strongly objects to taking food, and had to be fed mechanically a few times. On March 2d I began leaf-lard inunctions, two tablespoonfuls twice a day; applied it over entire body with hands, manipulating gently and taking care to apply an especially large quantity in axillary spaces, elbow joints, flexor surfaces, inguinal regions and popliteal spaces; bathed often and followed with inunctions. He enjoyed this treatment from the first. It seemed to moisten the integument and make it soft and pliable. He expressed himself as being well pleased, and it in no way caused him any discomfort.

After inunctions had been continued eight days he was weighed, and found to weigh 7½ pounds more than when treatment was begun. A few days later he became more restless and uneasy, and on the thirteenth he was weighed, and there was found to be a loss of five pounds, but this restlessness subsided, and on the 24th he had made a gain of 4½ pounds; continued treatment, and on April 7th he weighed 113 pounds. He is slightly improved mentally, feels better in every way, and has a good color.

Case 6573.—J. T. Received into the hospital on December 12, 1895; age, seventeen years; height, ——; weight, 125 pounds; hair, light-brown; eyes, hazel-gray; and light complexioned. Average size boy, body well developed, and only fairly well nourished; muscles rather small, show a lack of physical training, and are soft and not at all prominent; hands and feet cold and clammy. Otherwise all the organs of the body are normal. He is a melancholiac of a mild type. Appetite rather poor, and, though he was taking a general tonic and massage, there was no gain in weight, and no improvement mentally. On March 2d began leaf-lard inunctions twice a day, in addition to above treatment. During

next twenty-two days he gained 1½ pounds, and though there was no gain in weight worthy of much notice, there was much improvement in his general appearance; his face had previously been pale, but now appeared a ruddy glow, a clear, bright eye, greater muscular activity, and he seemed a little brighter mentally. From this time on there was a gradual gain in weight, and April 19th he weighed 138 pounds, a gain, in all, of nine pounds. His general appearance is much better, and there is marked mental improvement. May 6th, weighed 139 pounds.

Case 6549.—H. H. S. Readmitted on November 20, 1895; age thirty-four years; weight, 125 pounds; height, 5 feet, 8 inches; dark hair; eyes, blue-gray, mixed with hazel; dark complexion. Medium-sized male; body well developed and fairly well nourished, but there has been a loss in weight, his former weight being 145 pounds; muscles small, muscularity fair and symmetrical; skin drier than normal, but color good; temperature of body normal. With the exception of the tongue, which has a very red border and a gray coating over dorsum, the pulse, which is 72 per minute, full, quite firm, but intermittent, and the liver, border of which extends nearly a finger's breadth below the ribs, the organs of the body are in fairly good condition. All the sensations and all the reflexes are normal.

He is conscious of his surroundings, and talks rationally upon any subject which is external to himself. In 1886 he fell from a load of hay and dislocated his left shoulder. After recovering from this he was troubled with pain now and then when raising the arm above the shoulder. He was also a little nervous, slept poorly for a time, but later was able to sleep better. He said: "In the following February I was married and soon found I was impotent; was treated for this and recovered. In June I was much distressed over my former condition and became averse to labor. My will-power was almost paralyzed. When I did work it seemed I did it automatically. I thought of my condition as I worked, and sometimes the cloud would lift and then I would feel all right. I felt I was going to be insane, and thought almost continually of putting myself out of the way. I often wished I was dead, and that I had never been born." He recovered from this so far as to be able to go home in six months. After this he again became afflicted in a similar manner, and in four months was returned to the hospital; was greatly depressed, excited, and had the same feelings of anxiety.

He went home after a month's stay, but returned in November, as stated above. He said: "While home I worked on the farm, but did it automatically, as before. My first thought was that I was going insane, and thoughts of fear, doubt and suspense came over me, that I would lose my reason and become unconscious of my suffering. I felt so wretched. I had no idea of a normal condition of mind." Later he wrote: "Like as a cloud of darkest night, which hides the sun at noonday height; such was the blight upon my mind that none could know the anguish left behind; an unreal life, a broken will, a torment which I cannot still; home, love and friendship, once most dear, can breathe no balm nor soothe one fear; nor death can start a single tear. A frozen heart, the nerve unstrung, must quiver on, itself undone. Deserted by my own defense, how long to live in such suspense, in heated thought the more intense. How long will you futurity spend my aching brain? Oh, when the end, the end a world of meaning now to me! In hopeless midnight gloom, as solitary as the tomb. Oh, God! I say it reverently, what can break or move the spell and stop the whirlpool of my thoughts? A thousand emotions of mind and soul left me with less and less control. And thus to live and thus remain is agonizing now my brain. No words suffice my suffering soul to show, for truth denies all eloquence to woe." He also complained of pain over vertex. In this case there is abnormal psychical pain, intellectual power is not essentially damaged; there is a feeling of wretchedness and anguish; there is motor restlessness due to anxiety, and imperative impulses to suicide; headache, sleeplessness, marked constipation, and later the vital functions became inactive. Put him upon tonic treatment, but he still continued to fail, both mentally and physically, became almost frantic, was restless and would walk the floor almost continually. He could not rest at night until given 30 grains of sulfonal three times per day for a few days, when he rested better at night, and soon required only one dose a day and that at night, but later sulfonal failed to produce effect. He became much more restless, mental pain was very great, depression and anguish indescribable, and at the same time there came a rapid change physically. He failed in flesh, and on March 2d his weight was 101 pounds, and because of muscular weakness he had been put to bed on rest treatment a week previous. Massage had been given every other day, and on the last date mentioned leaf-lard inunction, twice per day, was added, and during the following twenty-two days he gained 6½ pounds, became more quiet, less restless and depressed, and a healthy, ruddy color began to take the place of the dusky pallor which had been present heretofore. Dr. Barrett, our pathologist, examined the blood at this stage, and found 6,000,000 corpuscles to the cubic millimeter. On April 7th he weighed 117 pounds, is much better in every way, and has hope of recovery.

On April 9th he weighed 132 pounds; he was up and about, and doing well; on the 24th weighed 135 pounds.

Case 6587.—R. S. Admitted on December 3, 1895; age, twenty-seven years; weight, 136 lbs.; height, 5 feet; light-brown hair, light complexioned, and eyes blue-gray. Is a male under the average in height. With the exception of curvature of the spine, which has caused him to be stoop-shouldered, the body is well developed, well nourished, and quite muscular. The head is large, and there is a marked depression in each temporal region, giving to the head and face a dumb-bell appearance. The teeth are widely separated. All the organs of the body are in normal con-

dition, and all the sensations and all the reflexes respond as they should in a healthy individual. He is weak-minded, and, so far as can be determined, has been so from birth. Father is insane.

On February 7th he was taken sick with capillary bronchitis, which soon terminated in croupous pneumonia of the left lower lobe. After several days the temperature subsided, and he seemed to be convalescing nicely, but at this juncture his temperature began to go a little above normal, remained so, and was higher in the evening than in the morning. This typical tubercular temperature continued, and on March 17th he began to cough up a thick yellow expectorate which was now and then tinged with blood. A microscopic examination was made and the bacillus tuberculosis found. His weight was now 103½ pounds; put him upon oil of cloves, ten minims every two hours, from 6 A. M. each morning until noon, and on April 7th added leaf-lard inunctions twice a day. On the 9th he weighed 106 pounds, on the 19th, 108 pounds, and on the 21st, 119½ pounds. May 7th his weight was 123 pounds.

He enjoys it, says he feels much better, and is looking better in every way.

The patients before you were the most unfavorable cases on my service at that time; cases in which all the vital functions seemed to be at about the lowest ebb, and every effort to improve their nutrition by means of diet, massage and general tonics (continued over the entire period of their illness up to the beginning of inunctions) had failed. They were also given rest treatment in bed, took a fair amount of nourishment, and still there was not a fraction of a pound's gain in weight by any one of them, but, to the contrary, in two there was a loss of many pounds each. Ordinarily, with the above care and treatment, patients have gained rapidly in weight, and usually among the recent cases there is a corresponding change for the better mentally. Adding lard inunctions was a last resort, and to me, though it seemed entirely rational, it was yet a hopeless resort; but was, nevertheless, carefully carried out, with the results as above stated.

The conclusions to be drawn are as follows:

1. It is clinically demonstrated that the integument plays an important rôle as an organ through which food may be taken, carried to the circulation, assimilated, nutrition improved, and wasted tissue repaired.

2. Its use is indicated in every case of extreme emaciation with mal-nutrition, where diet, tonic treatment with massage, fails to produce the expected results.

It is my belief that if the conditions were such that food could not be taken through the stomach life could be maintained, nutrition improved, and the patient made to gain in weight by inunctions of leaf-lard, olive oil, or other fats, twice or three times per day.

One of the arguments used by those who oppose the compulsory vaccination law in England is that vaccination is more dangerous to life than is railway travel. There is one fatal termination to every 14,159 cases of vaccination, while of railway travelers only one is killed among every 35,500,000.

DISLOCATION OF THE CERVICAL VERTEBRA.*

By A. Morgan Cartledge, M. D.

Professor of Gynæcology and Abdominal Surgery in the Louisville Medical College, Etc., Louisville, Ky.

MR. B., the subject of this report, is forty-nine years of age. The first day of last June, while engaged in separating some stock at the Bourbon Stock Yards, he was attacked by a vicious cow; he was tossed up in the air by the infuriated animal and in falling struck on his head. He was left helpless until assistance came and drove the animal away which tried to gore him. He was picked up and carried away limp, but complained of no pain. He says he might have been unconscious for a moment, but does not know that he was unconscious for any length of time. A physician was sent for who responded to the call; the man was found in severe shock, but his mind was perfectly clear. Later Dr. Chenoweth went to see the man and telephoned me the very serious nature of his condition. I saw him at 5 o'clock in the evening, when there was complete paralysis of the body from the fifth cervical vertebra, with, as I have said, a perfectly clear intellect. The attitude of the man's head was rather singular; it was thrown back, with marked bulging of the neck in front. Dr. Chenoweth and myself were undecided at first whether there was a fracture or simply a dislocation of the vertebra. We explained the gravity of the case to the patient's friends; told them that death might occur in an attempt to get the neck in place, but it was the proper thing to do. The patient was anæsthetized, and in a careful examination no crepitus whatever could be elicited. By counter-extension, gently pulling the neck, we are able to get it straight; meantime pressing in front upon the bodies of the vertebræ and making traction on the neck. We finally thought we had it straight; a fixation bandage was applied, and the man was kept in bed in the recumbent posture. He rallied well, and had some sensation in his left foot by midnight. There was no immediate disappearance of the paralysis. To make a long story short, he got along slowly, catheterization of the bladder being necessary for ten days. There was a great deal of trouble getting the bowels to move; there was no sensation in the rectum. Paralysis of the bladder and the rectum gradually passed off, rather rapidly for a case of this kind, disappearing in two and one-half weeks. Sensation of the left side reappeared, and with it a little motion, etc., of the rest of the body; the last remaining part was the right arm. He has not yet entirely recovered the use of his right deltoid muscle. He was able at the end of a month to stand up and could take a few steps. He has been treated at the Infirmary, and has now regained use of all the muscles except those of supination in the right arm and some of the muscles of the left leg. The left ankle, he says, is

* Reported to the Louisville Surgical Society.

always cold. There are two or three cold spots about the left leg, two about the abdomen and right arm, although his grip is powerful in the right hand. The right arm was very slow in recovering its strength, and after he left the Infirmary he had little use of that arm for a month. He complains of numbness of the fingers of the left hand. A strange feature of the case is that there was no pain from the beginning. It was a clear case of dislocation of the fifth cervical vertebra, and the question I want to ask the society is, considering all the circumstances, might there not also have been a fracture without any signs of crepitation? I am inclined to believe there was a fracture in addition to the dislocation.

Dr. James S. Chenoweth: I saw Mr. B. shortly after he was taken home. There was complete paralysis, and very marked prominence of the fifth or sixth vertebra. Standing back of the patient I made traction on the head, and there was immediately a return of some motion of the left foot. He had no motion at all at that time. This traction must have relieved pressure slightly as there was immediate return of motion in the left foot. The muscles were tense and prominent and I did not think any great traction could be made with safety. When Dr. Cartledge came out chloroform was administered. I think reduction of the displacement, which was not due to fracture so far as could be determined, was brought about as much by the thumb pressure on the prominence in front as from traction of the head, although considerable force was used in making traction. The direction of the force applied to the head when the injury was produced was upwards and forwards, just such as would most likely cause a dislocation of the vertebræ. The reducing force was applied in an opposite direction. I am glad to see that the man has made such a good recovery; I did not expect as much considering all the circumstances. Wyeth recently reported seven or eight cases of this kind that he had collected, with only one or two perfect recoveries, most of them either having hemorrhage about the cord, or resulting in inflammatory trouble, and getting little benefit from treatment.

Dr. A. M. Vance: The case reported is certainly a remarkable one as well as the result obtained, and I congratulate Dr. Cartledge upon the recovery. I have never seen a dislocation in this region. I have been unfortunate enough to treat several cases of fractures in this situation and all the patients died. In one case, reported at the time to this society, the man lived eight days. In another case where there was paralysis of both motion and sensation; the man lived three weeks. He had a fracture in about the same situation as the case shown by Dr. Cartledge; the spinous process being broken had penetrated the cord. Motion and sensation partially returned after I had operated upon him. When I had exposed the meninges of the cord I could tickle first one side, then the other and get aggravated sensation. In the case before us I think the trouble is due to a bruise or possibly a slight hemorrhage. The administration of iodide of potassium often hastens the cure in such cases. In one case of complete paralysis following fracture of the tenth dorsal vertebra, after the exhibition of enormous doses of the iodide of potassium, he was able to walk fairly well. There is no doubt that iodide of potassium assists in melting away the thickening which results in these cases and I would suggest its administration in this case.

Dr. W. C. Dugan: Like the others who have spoken, I desire to congratulate Dr. Cartledge on the result in this case. As Dr. Chenoweth has said, it is the exception and not the rule to obtain such a result. I think there must have been a fracture of the lamina to account for the displacement. If there was not a fracture in connection with the dislocation, reduction was not quite complete, because the depression is still more or less pronounced. I remember the case of a painter who fell forty feet from a scaffold to the pavement, sustaining a fracture of the spine in the dorsal region and, laceration of the kidney. He passed blood with the urine, a compound fracture of both legs; there was complete paralysis of the body up to the mid-dorsal region, retention of the urine from paralysis of the sphincter muscle. We thought the man would die, but put on a temporary dressing after examining him as carefully as we could. We did not feel that we were warranted in taking steps to relieve the paralytic condition inasmuch as the kidneys were so lacerated and other vital structures also involved. We thought he would die because of the laceration of the kidney and other lesions, non-surgical, independent of the spine. The second morning there was some improvement in the kidney symptoms and we re-dressed his legs, but after examining him carefully decided it unwise to attempt to do anything at that time for his paralysis, fearing suppression of urine in such condition of the kidneys. We noticed from day to day some improvement and in ten days his sensation and motion in lower limbs showed signs of return. He continued to gradually improve and a year from that time he was able to be up, but it was two years before he was able to use himself even fairly well, and even now he walks along with the locomotion of a man with the beginning of "tabes dorsalis," but unlike that disease his symptons are confined to his lower limbs; in fact there are no other symptoms of "locomotor ataxia," and since five years have elapsed we may safely say that the condition is the remote result of the fracture and not tabes dorsalis. I am satisfied my patient would have been improved by the use of iodide of potassium. Unlike some previous speakers, I am disposed to look favorably on the case, and do not apprehend any future trouble.

Dr. A. M. Vance: Do you not think the conformation of this man, being naturally stoop-shouldered, would make the depression greater in front than it would otherwise be? Do you think there is more depression than would be accounted for by the natural curvature?

Dr. A. M. Cartledge: When the patient was first seen the displacement could be plainly felt through the neck anteriorly; a dislocated vertebra was plain from the beginning. There was total paralysis, and the man presented a very pe-

culiar appearance. I believe in addition to the dislocation there was a fracture, but I take it there was little injury to the cord, otherwise, instead of a recovery, we would have had immediate death. While we made traction on the head, I think we did more to accomplish reduction by pressure of the thumbs upon the neck in front. By deep pressure we were unable to get any evidence of crepitation, and our first thought was that there was only a dislocation. There is all the evidence now of a fracture having existed, although the conformation of the man's shoulders, as suggested by Dr. Vance, might in a measure account for the depression.

One word as to the literature of this subject: I had occasion to look it up since having seen this case, and find that Agnew has collected 349 cases of what he described to be dislocation of the vertebra, with a very heavy death rate; autopsy proved in some of the cases that there had been a dislocation, and it had been reduced, but death in a number of his cases was immediate and no attempt was made to reduce the dislocation. Stimson, in commenting upon the statistics of Agnew, says he is satisfied that they are not gathered with sufficient care, and represent a large number of cases of mixed injury, fracture and dislocation, but it is thought that there are at least 120 cases of undoubted pure dislocation of the vertebra that have been diagnosed as such, with a goodly number of recoveries from reductions. Too much stress cannot be laid upon the danger in attempting reduction; the utmost care should be exercised, and the manipulation must be exceedingly gentle, otherwise irreparable damage may be done. Most of the dislocations have occurred in the cervical region, and where they have occurred below the third or between the second and fifth vetebra about the same line of symptoms have been present as in this case. These points are of value in determining the site of the dislocation.

In regard to the administration of iodide of potassium in the case before us as suggested by Dr. Vance: As the man has cold spots, paresis of the shoulder, especially the deltoid muscle, numbness, etc., there is probably more or less plastic deposit from a hemorrhage that occurred at the time, and it would seem that the iodide of potassium would be indicated.

SCALP WOUNDS; THEIR DANGERS AND TREATMENT. THREE CASES.

By J. Ivimey Dowling, M. D., New York.

SOME physicians fail to realize the importance of careful and skillful treatment of an injury to the scalp, for the reason that the majority of such wounds heal readily and sometimes without surgical attention, the patient simply applying some salve recommended by a friend who has suffered with a similar trauma.

I have known of cases making uneventful recoveries without any treatment from physician or patient. Such fortunate persons always praise the good condition of their blood, or if on the other hand, the wound becomes "corrupted," as they say, it is considered that their blood is below par and they may apply at a dispensary and request some "cooling blood medicine." Such errors may be overlooked when due to the ignorance of the patient, but when a scalp wound does not heal readily when under treatment of a medical attendant, then as a rule, it is the fault of the doctor and not the patient.

My experience with scalp wounds numbers about 300 cases, treated during my term of service as House Surgeon at Flower Hospital, as substitute at the Cumberland Street Hospital, Brooklyn, and a short term in the out-door department of the old Chambers Street Hospital, now removed to Hudson and Jay streets.

I found injuries to the scalp to be among the most frequent of accidents requiring surgical attention, and they are of several varieties, from a mere bruise to severe laceration of tissue.

In all cases a careful examination is absolutely necessary to determine the extent of injury, for what appears to be a simple laceration may prove to be a compound fracture of the skull, requiring the attention of a surgeon.

The technique to be followed in all cases where there is the slightest laceration of tissue is as follows:

After careful antiseptic cleansing of the wound and shaving of the scalp, introduce a sterilized probe, and thereby determine the extent of injury to the soft tissues, and if a fracture exists. Fractures may generally be appreciated by the peculiar grating sensation produced by the probe passing over the fissure in the cranial bones; of course, if the periosteum remains intact it is more difficult to determine the presence of a fracture, but in all cases of doubt a semicircular incision should be made through the skin and periosteum, and this periosteal skin flap dissected back and the skull inspected for trace of a cleft, which would indicate a fracture.

At times it is difficult to decide whether the suture is normal or if a separation exists.

Should a fracture be found, trephine should be resorted to, for rarely does a fracture occur without some injury to the miningeal vessels, causing hemorrhage, resulting in intra-cranial pressure, finally paralysis and death.

In some few cases where there is slight hemorrhage the clot may be absorbed, but for this possibility it is scarcely wise to trust Nature, for in aseptic surgery we have the means of entering the cranial cavity, removing already formed clots and checking further bleeding.

The same rule for drawing off the fluid holds good in these cases as in the drainage of a pleurisy with effusion or ascites, viz.: do not drain too rapidly or entirely, but allow some of the fluid to be drained by the gauze packing of the dressing.

The technique of the trephine is the same as in all other trephining cases.

Where a mere bruising of the tissues has occurred, a simple arnica compress will relieve the patient; however, because the injury appears

to be only a bruise do not be too sure that that is the extent of the injury, for at times such a trauma simply hides an extensive fracture of the skull, which in all probability would prove fatal unless operated. Such a case came under my observation while resident at Flower Hospital.

Having disposed of the more severe injuries to the scalp I will mention the method to be pursued in simple incised, lacerated, or punctured wounds.

In incised and lacerated wounds the area about the seat of injury should be carefully scrubbed with sapo viridis and made as aseptic as possible, then shaved and after having removed the hair, the scalp should be again scrubbed with the green soap, then washed with a bichloride solution (1–5000) and finally all useless shreds of tissue should be cut away and all foreign matter removed. The edges of the wound should now be approximated and sutured with silk.

Some authorities claim that a few strands of silk should be inserted in the wound and passed out through either end, thus allowing for drainage, but I believe that if strict antiseptic principles are followed the wound will heal readily without that precaution.

Punctured wounds should be converted into incised wounds, and treated in precisely a similar manner. Injuries thus treated often heal under one dressing.

In cases of undoubted infection, drainage should always be instituted and the wound dressed daily until cured.

In rare instances an infected wound continues for a long time to discharge pus, although most careful antiseptic measures have been pursued. In such a case the periosteum and bone are probably diseased, and a healthy granulation process can only be promoted by curetting the dead lamina of osseous substance and removing all dead tissue from the wound. After this operation the wound may be packed with gauze wet with a non-alcoholic solution of hydrastis or calendula, which aid in promoting healthy granulations.

If the physician fails to have a bone curette he may secure the removal of the necrosed bone by following the method of Dr. Waterman, which is the local use of hydrochloric acid.

"Dr. Waterman has ascertained by experiment that the action of the acid on healthy bone is limited to the decomposition of the mineral constituents, consisting principally of phosphates and carbonates of calcium, together with small quantities of the alkaline salts; so far as we know, not affecting the animal matter. Since in necrosed bone we have only these mineral salts remaining, the chemical action of the acid is more particularly confined to the diseased part, dissolving it without exerting any destructive influence on the underlying tissues. In this fact lies one of the real merits of the treatment; for, the diseased tissue being removed, the process of reparation can go on unobstructed.

"As to the method of employment: The acid should be used in the concentrated form, whereas heretofore for the most part dilute solutions and solutions in combination with various substances have been used by other writers. The number of minims in each individual case depends, of course, on the amount of bone which is diseased and on the general condition of the patient. It is preferable not to use the acid more than twice a week, owing to the reaction and pain which might result. However, contrary to expectation, but little pain is experienced, and this is attributed in part to the fact that the patients are accustomed to more or less manipulation, having been dressed frequently for several months, as a rule, and also the anæsthetic effect of the acid. In case it should produce undue discomfort, it is advisable to spray the tissues with a 4 per cent. solution of cocaine or cocaine and morphine a few minutes before injecting the acid; or, as an admirable substitute, the chloride of ethyl spray. Thoroughly wash out the sinus with sterilized water, in order to remove any pus or detritus and thus permit the acid to penetrate all of the diseased bony tissue.

"The ordinary sterilized glass pipette is found to be the most practical means for the application of the acid. The tube is introduced to the bottom of the sinus and the contents deposited directly upon the necrosed structure. After this, allow a minute to elapse, then irrigate the sinus with a saturated solution of bicarbonate of sodium, and apply a wet myrrh dressing. The object in using the latter in preference to dry dressings is because of the marked fetor noticed in many instances after the first two or three injections.

"The conclusions drawn from the cases reported are as follows:

"1. No evil effects have resulted from its use.

"2. The use of the acid in its concentrated form is preferable.

"3. When the area of necrosis is extensive, operative measures are advised.

"4. Its action is limited to the necrosed area; whereas curetting may remove both diseased and healthy bone.

"5. By the disintegration of the dead bone the newly formed tissue has a better opportunity for its more rapid development."

I have used this method in the case of a necrosed ilium and with marked success, for the discharge was reduced from four ounces to two drachms within twenty-four hours and the odor, which was very strong, nearly disappeared.

From the excellent result obtained in the case cited I should not hesitate to use the method in any limited bone necrosis, although Dr. Waterman suggested it as appropriate for tubercular bone necrosis.

The following cases are quoted to illustrate the importance of careful attention to these injuries.

Case I.—Boy, æt. six. Injury was diagnosed by the family doctor as a simple scalp wound of the forehead, and he treated it as such until he noticed meningeal symptoms. Then he sent the boy to Flower Hospital, where Dr. Bishop performed a trephine and found an extensive fracture of the frontal bone. The fracture having been compound, a clot was removed and the wound packed and dressed. The patient died within

twenty-four hours after admission from meningitis.

Case II.—Jas. O'B. æt. six. Injury: Scalp wound of vertex, which was treated as a simple trauma with a counter opening and drainage instituted. For several days this boy went about and was then admitted to Flower Hospital where it was discovered he had a depressed fracture of the vertex. Trephine by Dr. Helmuth, Jr., resulted in a complete recovery after a *prolonged* convalescence (March 9, 1896 to May 18, 1896), due to the suppuration which had occurred before admission to the hospital and which had caused meningeal symptoms.

Case III.—Mrs. R., æt. sixty. Injury just above the left eyebrow. She was treated by the family physician, who had not used proper antiseptic precautions. He sutured the wound and left no drainage, although there was a history of undoubted infection. Three days after the accident I was called to see her at her home. Upon examination I found a wound about an inch long, bulging like a ripe abscess, and extending from the injury over the face and scalp a smooth, shiny, red rash; meningeal symptoms had developed. She was suffering with traumatic erysipelas.

I removed the sutures, irrigated the wound with bichloride solution, then dressed the face and head in a compress of veratrum viride (1-4) and gave belladonna internally. I then had Bellevue Hospital notified to remove the patient, but before the ambulance arrived she was dead.

The above recital of cases is another proof of the adage: "An ounce of prevention is worth a pound of cure," and I trust that the presentation of this paper will be the means of saving some physician worry and the patient unnecessary loss of time and prolonged convalescence.

HYDATIFORM DEGENERATION OF THE PLACENTA.*

By P. Guntermann, M. D., Louisville, Ky.

THE specimen which I present for your examination is of a character that in my experience is rather rare. It is only the second one I have seen since I have been practicing medicine, about twenty-six years.

This specimen comes from a woman forty-six years of age, who has given birth to seven living children, all living to-day, the youngest being now twelve years old, who has menstruated since the last delivery regularly until eighteen months ago; then she had what we ordinarily call uterine colic, followed by more or less bleeding or flooding. I saw her ten months ago for the first time. She was then in a great deal of misery and pain, referred to different parts of the body, vomiting, and severe pains in the uterine region. Bleeding from the uterus was quite severe at times, which was very promptly relieved by the administration of oil of erigeron in fifteen drop doses.

She then had a rest of two months, menstruation appearing at the proper time. In June, 1896, she again missed her period, as was also the case in July. In August she commenced having a slight flow, not only at the time of her regular period, but every day, or every other day. In November, 1896, she was taken very ill with vomiting, feeling very sick in every way, and there was a steady dripping flow of blood from the uterus or vagina. I had not seen her for some time, and being called again suggested that it would be best to make a physical examination, which had not been done so far. I made an examination and thought I detected a tumor in the pelvis; at any rate, the anterior part of the uterus felt very large and boggy, and there seemed to be a mass bulging from the uterus towards the bladder, packing the cysto-vaginal space, which felt to me like a myoma. After a careful consideration of the matter I told the family what I thought of it, and had my friend Dr. Wathen called in. Dr. Wathen examined the woman carefully, and he pronounced it, I suppose correctly, a case of pregnancy. The next evening I was hurriedly called and found the woman apparently in labor, but the external os was closed, yet I could feel a large mass. As nothing could be done at that time, I left, and told them if they needed me during the night to send for me. About 1 o'clock in the morning they sent for me and I found that the mass, which I show you, had been expelled from the vagina.

This is the second case of the kind I have seen. It is a condition that the German midwives call a "sponge," a degenerated cystic placenta. It is sometimes called an hydatid placenta. This mass was expelled two weeks ago to-night, and the specimen has been kept perfectly sweet in plain filtered water to which has been added one-half ounce of chloral.

The question has been asked if I found a fœtus: Nothing was found except the mass before you, and that was expelled from the vagina before I reached the patient.

The only case I have seen of this kind occurred fifteen years ago in the person of a young girl; the placenta in that case was similar to the one before us, except it was much larger.

Dr. W. H. Wathen: The specimen is of interest because it is one which is found so infrequently. I have had several cases of this kind, however; some not so far advanced in degeneration, others further advanced. This is considered by most authorities as an hydatiform degeneration of the villi of the chorion, and it begins in the early months of pregnancy. In examining the case I asked the question if any fœtus had been expelled, because I have never seen a case of this kind where there was any embryonal or fœtal formation discernible. There is a question with pathologists in regard to this kind of degeneration, as to whether the degeneration precedes or follows the death of the embryo, one authority believing that the embryo dies and then degeneration of the villi of the chorion begins; another that degeneration begins previously and destroys the life of the embryo because it cuts off all supply of nutrition and

* Reported to the Louisville Clinical Society.

of oxygen. These cases usually go on for two or three months as normal pregnancies, with all the symptoms, objective and subjective, of pregnancy; then we will find as a rule the patient begins bleeding, sometimes only a slight hemorrhage, again it may be profuse. The abdomen sometimes begins to enlarge rapidly. I remember one woman pregnant two or three months where enlargement developed suddenly, and in thirty days had attained the size of a full-term pregnancy. It was in my early professional life, associated with Dr. Crowl. I was called to the infirmary one morning in haste, and found the patient had discharged a great quantity of water and blood, and in the neck of the uterus was a large mass, which was removed, and every part of it was so perfectly hydatiform in appearance that you could see no other tissue, little cysts varying in size from a millet seed to the end of my finger, oblong in shape. These were at least two gallons of this degenerated substance. The woman made a perfect recovery. Another case was sent to me by Dr. Porter, in which pregnancy had progressed about the same length of time. I was called to see the patient at the end of the fourth month, and found her bleeding rather profusely. The neck of the uterus was dilated, and I removed with my finger the contents of the uterus, which proved to be an hydatiform mass about the size of the one before us.

Cases of this kind nearly always recover. While there may be profuse hemorrhage; while there may be persistent recurrence of the hemorrhage for a long time, finally the uterus will contract, expel the contents, and the woman will then be relieved just as she would be had she expelled the fœtus in the normal way. I do not remember to have seen a case in which there was a bad result.

The case reported is especially interesting not only because of its infrequency, but because of the fact if there is any one present who has never seen such a specimen, he will be able to recognize the condition should he meet with such a case. We find sometimes these little cysts are so perfect that they look like a bunch of grapes. Part of the mass may not show any hydatiform degeneration, while the balance will be composed of these small cysts. There has been several instances of this kind where there has been trouble—I do not remember where I saw the reports—in women who were not married, and it was argued by one party that the woman must have been pregnant; by another that this condition may exist without pregnancy. If it be degeneration or an hydatiform condition of the villi of the chorion—and that is all the pathology we have—then of course it could not be present unless the woman were pregnant.

In case of hydatiform degeneration of the villi of the chorion there would be as a rule no necessity for curetting. The mass is usually expelled in its entirety, and if it has not, all that is necessary is to introduce the finger or fingers and take the remainder away. Curetting with either a sharp or dull curette would be rarely indicated. It is not the custom to curette in these cases. Neither is it the custom to curette in what is called "moles" of pregnancy, nor is it the rule to curette in cases where we have an abortion with retained placentæ, the placentæ in these cases being removed by means of the finger. The finger constitutes the best means of removing a retained placenta, whether it be firmly or loosely adherent, and there are instances where we cannot with a curette remove a placenta in which it can be easily removed by means of the finger. I had a case two weeks ago where it would have been impossible to remove the placenta with a curette, but it was removed by persistent use of the finger.

PREVESICAL ABSCESS.*

By James B. Bullitt, M.D., Louisville, Ky.

I BRING this patient, O. Q., aged twenty-two years, before you, as the case is of some interest on account of his having had a prevesical abscess, evidently produced by aspiration of the bladder. The history of the case is about as follows:

He says that he is now twenty-two years of age. Had gonorrhœa in 1891, at the age of seventeen; was not readily cured, but went into a gleety discharge, which lasted two years, yielding at last to treatment in 1893 at the hands of Dr. Henry Pusey, who used sounds for dilatation of the urethra. Before going to Dr. Pusey there had been a urinary fistula. On two occasions, when the patient had been unable to pass water he had been compelled to seek relief by catheter in the hands of a physician. In the spring of 1895 he went to the Marine Hospital, where he was given chloroform and some sort of an operation undertaken. Sounds were afterwards passed, causing each time hemorrhage and so much pain that the patient left the hospital two weeks after the operation.

In June, 1896, the patient again had stoppage of urine; he attempted to pass a catheter himself, but unsuccessfully; he then went to Dr. Ferguson, who, failing likewise to get into the bladder, took the patient to Dr. H. H. Grant, who aspirated the bladder suprapubically. Aspiration was repeated again within twenty-four hours; the patient does not know what else was done to him; but after the first aspiration he had pain continuously in the bladder region, accompanied by chills and fever. On the 24th of June the patient was removed to the city hospital, where Dr. Dunn passed sounds up to the 1st of July, when the reporter came on duty at the city hospital.

This patient was found to be extremely ill, very weak, and evidently not very far from death. There was sweating, rigors, and a temperature indicative of the formation of pus. On examination there was found a dullness in the bladder region extending to the right side and upward to the umbilicus. It was believed that this dullness was caused by an accumulation of pus, and an operation was undertaken July 4th for its libera-

* Reported to the Louisville Surgical Society, and to this journal, by C. C. Mapes, stenographer.

tion. Dr. Chenoweth, Consulting Surgeon to the City Hospital, saw the case with me and agreed with me in the diagnosis. An incision was made as though for suprapubic cystotomy; without going very far a large collection of pus was opened into, two or three pints of very foul pus being liberated. The condition found was a curious one; evidently pus had begun to form at the side of aspiration and as the abscess increased in size the bladder was dissected away from the pubic arch and was pushed backward and upward toward the umbilicus. A sound was passed into the bladder and then one finger inserted into the rectum. The neck of the bladder, very much elongated, and with the sound in it, was clearly felt between the finger in the rectum and the finger of the other hand inserted into the abdominal wound. The pus had burrowed deep into the pelvis on either side of the rectum.

I attempted drainage anteriorly for a few days, but owing to the large quantity of pus which had burrowed so deep toward the rectum upon either side, I finally decided to take a pair of blunt forceps and pass them through the anterior wound, carrying them down by the side of the neck of the bladder and out to just one side of the rectum and drain through this lower opening with a tube, making thus thorough drainage. The tube remained *in situ* three weeks, when it was removed. Five days ago the anterior wound closed and the young man is now perfectly well. The urethra at present will admit a sound No. 21 French. He has no difficulty in passing his urine, and I take it, he will have no further trouble.

I had a somewhat similar case recently after a suprapubic cystotomy for a large soft stone, in which I used continuous irrigation and drainage by intermittent siphonage, the principle of the siphonage pump being the suction, keeping the cavity clean and sweet. I think this method might have been employed to advantage in Dr. Bullitt's case. This method of drainage might have hastened recovery. In my case the continuous irrigation was kept up for ten days, the tube being taken out several times in the interim, and each time I found the prevesical space would fill up with pus, etc., and it would have to be replaced. The patient made a good recovery.

—The profession was disappointed in the first results obtained from Koch's tubercules. Within a short time the Professor claims he has so far perfected it that it now stands in the same relation to tuberculosis as the antitoxine does to diphtheria.

No Natural Decline of Smallpox.—It is absurd, says the *British Medical Journal*, to talk of a natural decline of smallpox, as plague has declined and vanished, from this country at least, when we observe the virulence of smallpox in local outbreaks, and when we think of the very large mortality which countries like Spain and Russia still show, countries where there is very little vaccination. Here are the smallpox death-rates per million living, for the single year 1889, in the following provinces of Spain: Almeria, 3,080; Murcia, 2,670; Corunna, 1,250; Malaga, 1,340; Cadiz, 1,330; Cordova, 1,400. The rate for Germany is four for the same year

A REPORT OF TWO MONTHS' SERVICE IN THE FEMALE SURGICAL WARDS, METROPOLITAN HOSPITAL, BLACKWELL'S ISLAND, NEW YORK.

By Homer I. Ostrom, M. D., Visiting Surgeon, and Burt D. Walker, M. D., House Surgeon.

I AM indebted to my house surgeon, Dr. Burt D. Walker, for the following report of the cases occurring in my female surgical service during January and February of the present year. Dr. Walker's able assistance and careful post-operative attention have contributed in no small measure to this very creditable showing of two month's work, embracing as it does a list of seventy-two operations, with a mortality of 1.38 per cent. only one case having been lost, a vaginal hysterectomy, the cause being shock.

Homer I. Ostrom, M. D.

CLASSIFICATION.

Vaginal hystero-oophorectomy	6
Vaginal hysterectomy	1
Salpingo-oophorectomy	1
Appendectomy	1
Trephine of skull	1
Thigh amputation	2
Breast amputation	2
Osteotomy for genu varum	2
Herniotomy	3
Amputation of cervix uteri	1
Amputation of rectum	2
Double trachelorrhaphy	5
Excision of hæmorrhoids	5
Perineorrhaphy	13
Sequestrotomy frontal bone	1
Sequestrotomy of tibia	1
Skin graft (Thiersch's)	8
Curettment of uterus	8
Excision varicose veins	1
Excision urethral carruncle	1
Obliteration rectal stricture	1
Evacuation and curettment of major abscess	4

During the months of January and February Dr. Ostrom held four regular clinics. These clinics were observed by a large attendance of students and post-graduates, and a few cases are here briefly quoted to represent the nature of the operations performed and the results.

Dr. Ostrom, in performing vaginal hysterectomy, has given up the use of clamps for the broad ligament, prefering in his private practice, his specially prepared cat gut for securing the uterine and ovarian arteries.

In the cases here reported, fine silk was used. His first point of attack is the posterior cul de sac, liberating the utero-sacral ligaments. The bladder is then separated from the uterus. After ligating first the left then the right uterine artery, the ovaries and tubes are in the same order peeled out of the broad ligament, and their arteries ligated. The uterus and appendages are then cut out. The peritoneum is not sewed, but is allowed to fall together, and the vagina is lightly packed with iodoform gauze. The gauze is not removed until the eighth day.

His former method in salpingo-oophorectomy of transfixing the broad ligament and

gathering the ends of the ovarian artery in a single ligature he has abandoned for separate ligatures, between which the ovary and tube are cut out. The peritoneum of the broad ligament is then brought together with a running cat gut suture. Less pain and more rapid convalescence follows this method.

In appendectomy, the appendix receives a temporary ligature, which is removed, after the application of a Lambert suture to the peritoneum of the stump.

After all abdominal operations, (this includes vaginal hysterectomy), from two to three liters of normal salt solution are injected into the colon before the patient leaves the operating table, and while thoroughly relaxed. Shock is less severe, thirst less distressing, and the kidneys more active, when this practice is followed.

Vaginal Hysterectomy.—Mrs. H., a widow of forty-five, had suffered from hysterical troubles since the cessation of the menstrual function. Among these were headache, vomiting, vertigo, wandering pains in back and sides, neuralgia, weakness and lassitude. A dragging pain in the uterine region, intensified by motion or manipulation, was more or less constant. The uterus was retroflexed, large and firm, discharging an offensive, purulent leucorrhœa. As the patient had passed the climacteric and the ovaries were in normal condition, only the uterus was removed. Ligatures for controlling the hæmorrhage were applied, and the wound was packed with gauze. Recovery complete.

Vaginal-Hystero-Oophorectomy.—Miss G., an Irish girl of twenty-three, giving a history of syphilis, came under our care with amenorrhœa, chronic purulent endometritis, constant dragging pains in the back, headache, extreme nervousness, and generally impaired digestion. The right ovary was enlarged, nodular and sensitive, the left tube and ovary prolapsed and sensitive. The uterine body was fixed and hard, and the cervix elongated. Vaginal hystero-oophorectomy was performed; an uneventful and complete recovery followed.

Vaginal Hystero-Oophorectomy.—In the case of Mrs. P., aged thirty-three, monthly seizures of epilepsy began at her fourteenth year and continued until her eighteenth, when mensturation began. She married at twenty-four and bore no children. During the last three years the convulsions have repeatedly occurred, associated with amenorrhœa not amenable to remedies and the best sanitary conditions. On examination the uterus was found hard, fixed, and hypersensitive, the left ovary enlarged, prolapsed, and the source of continual pain. Leucorrhœa was abundant and excoricating. Vaginal Hystero-oophorectomy was performed and a rapid recovery followed. No sign of epilepsy has since returned.

Vaginal Hystero Oophorectomy.—Miss B., aged twenty-four, of Russian descent, enjoyed good health until seven months ago, when menstruation became irregular and painful, then ceased entirely, and a set of hysteroidal symptoms have clung to her in her travels about the city from hospital to hospital ever since. The right ovary was found evenly enlarged to double its size, and the appendages on the left side were lost in a mass of adhessions which drew the uterine body slightly out of the median line. The uterus with appendages intact were removed through the vagina, the left ovary being found much degenerated. Fibrous bands in abundance beyond the left tube and ovary, furnishing a troublesome pedicle to ligate. Complete recovery followed this operation.

Vaginal Hystero-Oophorectomy.—In the case of Mrs. M., a Bohemian woman of thirty-seven, profound mental depression and almost constant weeping without apparent cause, led to an examination of the pelvic viscera. A small subperitoneal fibroid was detected digitally, on the left posterior aspect of the fundus uteri. Upon this the tube could be felt somewhat enlarged. The ovary of the same side was enlarged and prolapsed. Vaginal hystero-oophorectomy disclosed a small fibroid, as described, and cystic degeneration of the left ovary. Convalescence was short, and much improvement mentally is plainly evident.

Vaginal Hysterectomy.—Mrs. K., a German widow of fifty-nine, had suffered for several years with eversion of the cervix and prolapsus uteri of the second degree. In the last three months prolapsus had reached the third degree, the entire uterus with cervix everted protruding from the ostium vaginæ. Replacement immediately caused straining and bearing down, which again brought the uterus into view and expelled the contents of the bowel. After tamponing the organ in its place, it was impossible to restain the patient's expulsive effort, and for her comfort it was allowed to remain protruding. The urine could not be voided without the catheter. Being unwilling to endure the condition longer, she urged any operative measure that would afford relief. Ether was contraindicated by chronic parenchymatous nephritis, and chloroform was administered sparingly and the uterus removed. Much care was necessary in making the dissection into the anterior cul-de-sac to avoid the bladder, the walls of which were so much hypertrophied as to at first lead to the suspicion that a fibroid tumor was located there. Half hour later signs of collapse appeared. Hypodermatics of strychnine, digitalis and glonoine produced no reaction. Intravenous infusion of two quarts of normal salt solution was followed by a marked improvement in the strength of the pulse and respiration for three hours, after which the heart rapidly became weaker than before. Artificial respiration and galvanism failed to restore, and the patient died seven hours after the operation.

Appendectomy.—Mrs. B., aged twenty-two, complained of collicy pains deep in the right illiac fossa, which became constant in the course of twenty-four hours, worse upon the slightest touch or upon any motion. The abdomen was tympanitic and rigid, tongue coated dirty white, and considerable nausea was present almost continually. In entering the ab-

domen, the incision was made in the median line below the umbilicus that the pelvic organs might be explored also, suspicions of some trouble having arisen from the previous history. However, these organs presented no lesions, but the appendix was found to be of unusual length and deeply congested. An incision about two inches in length was made in the mesentery to free the entire length of the appendix, which was then ligated at its base, cut away, and the stump cauterized. A few bleeding points in the mesentary were tied and others cauterized, and the abdomen closed. These measures restored perfect health after a convalescent period of twenty days. More especially when removing the appendix from women, Dr. Ostrom prefers to open the abdomen in the median line rather than over the seat of the suspected lesion. Through this incision the appendix readily presents itself, and should it be found necessary to remove the uterine appendages, the operations can be done through one opening.

Salpingo-Oophorectomy. Trephine of Skull.—Mrs. C., a young housekeeper, had the misfortune of falling from a piazza, striking upon the vertex of the skull just to the right of the sagittal suture. This precipitated her first epileptic seizure, and attacts of this trouble occurred at each period of menstration subsequently. One year ago, in one of the city hospitals, the right ovary and tube, and the uterus, were removed without modifying the epilepsy. The remaining left ovary and tube were found adherent to a mass of cicatricial tissue, which upon the slightest manipulation gave extreme pain, extending upward into the left hypochondrium. Each attack of the convulsions seemed to be induced by gradually increasing pains radiating from this mass, and in hopes that its removal would modify the epilepsy, a small incision into the abdominal cavity was made just below the umbilicus through which the ovary with its tube and the adjacent mass of fibrous tissue were tied of and removed. The wound was closed without drainage and healing was primary, but four weeks later when thoroughly recovered from this operation, the attacks recurred with unmodified severity, preceeded this time by vertigo, twitching of muscles of left forearm and hand, and intense localized pain just above the right parietal eminence, the location of the injury received three years ago. Upon this surgical indication, other causes being excluded, a large piece of bone was removed at this point and the dura opened. No cerebral lesion was visible, and the scalp was drawn over the bulging brain substance and closed, leaving a small gauze drainage at the dependant point. Healing was prompt and complete, but the same convulsive seizures recurred as before.

Herniotomy (*Right Inguinal Hernia*).—Mrs. S., a German widow, fifty-six years of age, had been troubled with a right inguinal hernia for three years caused by straining at lifting. She states that in two instances, timely reduction of protrusions of considerable size narrowly averted strangulation. Upon opening the hernial sac it was found to contain two or three knuckles of intestine which was adherent to the entire circumference of the ring. These adhesions were freed, the sac ligated and removed, and the stump pushed back into the abdomen. Forming a floor for the inguinal canal consisted in reuniting the muscular tissue of the internal oblique on the inner side of the ring to its fascia in the region of Paupart's ligament. The round ligament being too lax, was shortened about one inch and secured with silk over the pubic bone. Then the external oblique fibres were reunited, giving the round ligament the position of the spermatic cord in Bissini's operation. Complete recovery followed without return of the hernia.

Herniotomy (*Double Inguinal Hernia*).—Mrs. C., an Irish maiden lady of fifty, had inguinal hernia of seventeen years standing, large and reducable with difficulty. The surgical technique for its cure was the same as in the preceeding case, and the results equally satisfactory.

Double Breast Amputation. (*Carcinomata*).—Mrs. E., a widowed woman aged fifty-three, of Irish descent, presented a new growth involving two-thirds of the substance of a large, slightly pendulous right breast, and another nodular growth the size of a walnut in the left breast. For the last two or three weeks she had suffered considerable dragging pain in both breasts, with restlessness, headache, nausea with immediate rejection of all food taken, necessitating rectal alimentation. After thorough preparation both breasts were amputated and all neighboring lymphatics removed. Recovery was uneventful excepting a short delay in the healing of the left breast caused by obstructed drainage.

Double Osteotomy (*Genu Varum*).—Miss R., a rachitic girl of thirteen, had developed during the last two years an outward curvature of both legs, until, standing with feet approximated, the knees were five inches apart. The deformity was almost exclusively limited to the legs. Dr. Ostrom made an incision one and one-half inches long over the tibia about three inches below the condyle, through which the inner side of the tibia was chiseled through sufficiently to permit of breaking the bone by bending the leg toward the fibula. This procedure restored the contour of both legs. A portion of each wound was left unsutured for gauze drainage, dry dressings applied, and the straightened legs secured in plaster casts enforced by strips of the tin, splinting. A week later windows were cut in the casts over the wounds and fresh dressings applied every second day thereafter until healing was complete. At the present time the knees approximate normally, and she can walk in an easy, graceful manner.

Amputation at Middle Third of Thigh.—Mrs. H., an Irish woman of sixty-five, had neglected to attend properly to a small ulcer which appeared sixteen months ago on the left leg just above the external malleolus until it extended completely around the leg and deeply into the tissues. In removing the sloughs of muscle and tendons, about four inches of the fibula was bared. The foot below and the leg above the ulcer were ponderous with œdema, and gangrene of the entire

limb seemed imminent. Amputation at the junction of the middle and upper thirds of the thigh improved the general health at once. Although but one artery bled on removal of the Esmach's bandage the nutrition of the flaps was sufficient for primary union save a small portion which sloughed and healed slowly by granulation.

Amputation of Thigh at Middle Third.—Mrs. R., an Irish widow forty-seven years of age, was admitted with an indolent ulcer caused nine years ago by a kick on the right leg a few inches above the ankle. From a small abrasion of the skin the ulcer enlarged and involved deeply the whole lower limb. The discharge was exceedingly offensive and her general health became greatly impaired. As gangrene was feared the leg was amputated in the middle third of the thigh by the circular method, which was followed by restoration of her health. On the ninth day union was found complete.

EUCAINE IN THE SURGERY OF THE GENITO-URINARY APPARATUS.

By J. Hubley Schall, M.D., New York.,

Late House Surgeon of the Emergency Hospital; Late House Surgeon of the Cumberland Street Hospital; Present House Surgeon of the Hahnemann Hospital.

While cocaine has been of value in minor surgery, its use having permitted the surgeon to dispense with general anæsthetics in certain operations, numerous cases have been reported in which its use, even in small quantities, has been attended with serious and even fatal results.

While an intern in the Cumberland Street Hospital I recorded one case which resulted fatally after an injection of two drachms of a 4 per cent. solution of cocaine. In two other cases an injection of the same strength solution caused so violent a reaction that the patients remained in an apparently lifeless condition for some hours.

In consequence of my unfavorable experience with cocaine I have banished it as a means of local anæthesia. A substitute for it I have found in a recently introduced drug known as eucaine.

While very few reports of the use of eucaine in genito-urinary surgery have come to my notice, I think the following case will prove interesting solely from the fact that it is the first, as far as I am aware, in which eucaine was employed as an anæsthetic.

On March 19th last, Mr. S. M., merchant, thirty years of age, married, came to me with the following history: Had a whitish discharge from the urethra about nine years ago. The difficulty was painless, but lasted noticeably for some months.

He was told the condition was only a "strain," and as a result paid no attention to it. He experienced his first trouble in urination eight years ago, after excessive sexual indulgence. This resulted in attack of retention of urine, which was relieved by a small catheter. From that time he has complained of frequency in micturition, the frequency being worse during the day. He has noticed a change in the character of his stream, which is frequently double, or spray-like. Dribbling after urination has annoyed him very much.

Examination showed the external genito-urinary apparatus atrophied; penis in a flaccid condition, four inches in length and two and one-half inches in circumference.

In attempting to explore the urethra no steel, sound or ordinary soft instrument could be made to pass the stricture, which was located a little behind the bulbo-membranous urethra, but by persevering with filiform bougies I succeeded in passing one into the bladder.

The patient being advised to undergo an operation for the relief of his condition finally consented, providing a general anæsthetic should not be used.

Having been favorably impressed with the use of eucaine in producing local anæsthesia in previous minor operations I concluded to try it in this case.

Operation—The patient in the lithotomy position, the urethra was cleansed with a weak solution of potassium permanganate (1 in 2,000), after which a filiform was introduced into the bladder. The perineum having been prepared in the usual manner, a sterile 4 per cent. solution of eucaine was injected into the raphæ. After superficial anæthesia was produced the needle was introduced deep into the perineal tissues and about one-half drachm deposited immediately in front of the urethra.

Using the filiform as a guide an incision was made in the median line of the perineum two inches long, cutting through layer after layer till the knife point entered the urethra, exposing to view the filiform.

The division being made with little or no pain I then introduced a grooved director, entering the urethra through the perineal incision from before backward; I passed it readily into the bladder. I then inserted a probe-pointed bistoury along it, and incised dense cicatricial tissue for fully a half inch, withdrew the director and passed No. 31 F. steel sound through the external incision back into the bladder. This procedure caused the patient considerable pain. The hemorrhage occurring during the operation was slight.

Owing to the vesical irritation experienced in previous cases due to the retention of a catheter, I omitted its use in this case, hoping that the administration of salol by the mouth would keep the urine sterile and thus prevent urethral fever.

I thoroughly irrigated the bladder and urethra with a solution of potassium permanganate (1 in 2,000) and applied an electrozone gauze dressing to the perineal wound.

The whole operation required three drachms of the 4 per cent. solution of eucaine.

There was no complaint of any marked pain subsequent to the anæsthesia; and as I was leaving him he expressed himself as feeling "fine."

The temperature rose to 100° Fahr. on the afternoon following the operation, after which it ranged between normal and 99°. His urine, over

which he had control, was passed entirely through the perineal opening for the first ten days, after which a small portion found its way through the anterior canal.

On the fourth day a conical steel sound, No. 28 F., was passed through the penile opening into the bladder. A slight gush of blood followed, but stopped in a few moments. Instrumentation was repeated every third day for three weeks, after which the intervals were longer.

March 30th. Tenth day after operation. Wound in the perineum closing healthily; passes water about equally through it and through the urethra anterior to it; feels well, eats well; walks about the room or sits in an arm chair with comfort.

April 2d. The perineal wound having almost closed, the patient was sent home with instructions to return every four or five days for the purpose of passing sounds to promote further absorption of connective tissue.

April 12. Perineal wound has entirely closed. The patient passes water freely through the urethra. No. 28 F. steel sound passed into the bladder without difficulty.

The result of this operation under eucaine proved, to my mind, highly satisfactory. It seems to be less poisonous than cocaine, but it cannot be considered entirely harmless.

Keissel claims that as much as thirty grains of eucaine can be injected without deleterious effects.

One important advantage of eucaine is that its solutions are stable. They can also be sterilized by boiling without affecting their anæsthetizing properties.

I notice that some disprove of the use of eucaine owing to its hyperæmic-causing properties.

If we keep in mind that sounding the urethra for stricture is followed by a transitory hyperæmia of the region about the stricture, it is probable that the hyperæmia attributed to the eucaine is, to a great extent, due to the sounding.

In cases of emergency from an overdose of eucaine, I would think of the cardiac stimulants, nitro-glycerine, strychnine, caffeine, ether, ammonia, and dilatation of the anal sphincters.

Supplied Blood "in Extremis"—A Killer of Septicæmia and of Syphilitic Virus. Cases by Dr. W. H Parsons, Omaha, Neb.—In St. Louis a lady had pricked her thumb with some poisonous product and blood poisoning in its most virulent form supervened, and in spite of the best efforts of several leading surgeons, the case came to a point where amputation at the shoulder seemed the only alternative. The hand and arm were swollen to their fullest capacity, and honeycombed with scores of sloughing ulcers. Upon my advice the hand and arm were dressed six times each day, after having been thoroughly cleansed with pure bovinine; the ulcers being packed with soft lint saturated with the same, and the entire arm and hand dressed with it. In thirty hours a change was manifest, and in sixty hours healthy granulations began to appear, diseased tissue to slough out, and in twelve days her hand and arm were as good as new.

Soft chancroid involving the glands and prepuce. The soft ulcer had been doing its work for four weeks; appeared almost malignant; various dressings had failed, such as iodoform, etc. This ulcer was packed in pure bovinine and soft lint, changed every two hours the first three days, then every four hours. In thirty-six hours the diseased tissue sloughed out, healthy granulations set up, and in ten days he was well. This, in brief, is my experience along new lines (that is, new to me.)

INSPECTION OF PUBLIC SCHOOLS.

At this writing, it is three weeks since 150 physicians began their duties as Medical School Inspectors, and the result of the work thus far verifies the predictions that it would prove beneficial and tend to lessen contagious diseases among school children.

The original plan was to have the inspectors visit the parochial, primary and primary departments of the grammer schools, but the decided benefits derived from their supervision has warranted the extension of the system to the schools under the control of the Children's Aid Society and the Industrial Schools. Probably in the fall all the schools will be inspected.

The cases which are excluded include measles, diphtheria, scarlet fever, chicken pox, croup, whooping cough, contagious eye and skin diseases and parasitic diseases of the head and body.

All cases of measles, diphtheria, scarlet fever and chicken pox are visited at their homes by health board inspectors, who verify the diagnosis, and in the case of diphtheria the clinical evidence is corroborated by an examination of a culture from the throat or nose. Patients suffering with these diseases are not allowed to return to school until they receive a permit from the health board, and in case of diphtheria they are detained from school until examination or a culture renders a negative result.

The following is a tabulated list of those excluded during the first three weeks:

	Measles.	Diphtheria	Scarlet Fever.	Croup.	Whooping Cough.	Mumps.	Chicken Pox.	Contagious Eye Diseases.	Contagious Skin Diseases.	Parasitic Diseases of Head.	Parasitic Diseases of Body.	Total Number Excluded.
Week ending Apr. 2	10	28	3	3	4	19	25	127	24	303	23	569
Week ending Apr. 9	3	23	3	3	4	10	15	59	19	219	8	364
Four days ending Apr. 15	9	10	1	1	2	12	13	31	10	169	9	267

J. I. DOWLING, M. D.,
District Med. Inspector.

Simple Method of Diagnosing Diabetic Blood.—The amount of grape-sugar in normal blood is from .05 per cent. to .15 per cent., while in diabetes it is increased from .27 to .57 per cent. This increase, slight though it is, has a distinctly increased power of decolorizing alkaline methyl blue, as can be shown by the following test, given by Williamson, in *British Medical Journal* (vol. II., 1896, p. 731.)

In a small, narrow, clean test-tube are placed 40 c. mm. of distilled water. A graduated capillary tube, such as is supplied with Gower's hemoglobinometer, is necessary for this purpose. The tip of the patient's finger is cleaned, dried and pricked, and from the exuding drop of blood 20 c. mm. are sucked up into the capillary tube and blown gently into the water at the bottom of the test-tube. Then 1 c. cm. of a watery solution of methyl-blue, 1-6000 is added, and finally 40 c. mm. of liquor potassæ, and the contents are mixed by shaking. A control-experiment is performed with non-diabetic blood.

The fluid in each tube is of a fairly deep blue. Both are placed in a glass containing water, and this is heated and allowed to boil for about four minutes. The fluid containing diabetic blood changes to a dirty, pale yellow, almost the color of normal urine. The other fluid becomes a bluish green or pale violet, but never loses its blueness. The tubes must be kept still while in the water-bath, as, if shaken, the methyl-blue is oxidized by the air, and may regain a blue tint. This is also the reason why a water-bath must be used for the boiling.

Taylor has applied this test thirty times in six cases of diabetes mellitus, and the decolorization was each time obtained. In 160 examinations made with blood from healthy patients and from those affected with various diseases other than diabetes, the decolorization did not take place at once.

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ROBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D.

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FEELING AND MENTAL PROCESS.

WE have long known that nervous tissue consists of the gray matter or nerve cells and the fibers which convey the sensation and thought generated in the nerve cells to the other tissues of the body. Studying more closely the nerve cell we find it consists of a cell body, and numerous prolongations; that one of these prolongations forms a nerve fiber, but that this fiber continues to remain a part of the cell, no matter how long its course. It may terminate near other cells, but does not become continuous with these but preserves its own individuality. An entire nerve cell, with its projections, is spoken of as a neuron. These neurons, microscopic in size, combined in great number make up the nerves. These neurons or cells have an individual motion; their processes lengthen or contract, and from a careful consideration and study of these facts, well established, Dr. Dercum, of Philadelphia, in a recent very elaborate paper read before the County Society, argued that in the movement of these neurons is the secret of the phenomena of mental life and sensation. Dr. Dercum illustrates his idea with a description of a case of hysterical paralysis where, for instance, an arm is suddenly paralyzed, and in the course of a few hours suddenly recovers its function:

The neurons of the motor area of the cortex (the gray covering matter of the brain) not only present extensions directed toward the cortex, but also an extension downward, which becomes a nerve fibre. This extends downward through the white matter of the brain, the internal capsule, the crus, the pons, the medulla and the cord, and terminates in the cord and brush-like extremity, the end tuft. By means of this end tuft the cortical cell is brought into relation with the motor nerve cells in the spinal cord. What the relation is between this end tuft and the nerve cell in the anterial horn of the spinal cord is not known. It is probably one of contact or close proximity. It is now absolutely known that there is no actual continuity between the end tuft and the spinal cell.

Now, in the case of hysteria, in which the arm is paralyzed, the neurons of the arm center of the cortex contract in such a way that their end tufts in the spinal cord no longer bear their normal relation to the spinal neurons; the connection between the cells is broken. Suppose now that the paralysis of the arm disappears from any cause. Under this theory the disappearance is due to the end tufts resuming their normal relations with the spinal neurons, and function is re-established. No other theory so readily explains the appearance and disappearance of hysterical paralysis, or anæsthesia. It is highly probable that the movements of the end tufts are also shared by all the other projections of the nerve cell, and that the movement may not be one of simple protraction and retraction, but may also be lateral in direction.

Sleep has been commonly attributed by physiologists to the withdrawal of blood from the brain, notwithstanding the fact that insomnia generally follows a great loss of blood.

Under Dr. Dercum's theory the neurons, when performing their functions, must be in relation with each other; their extensions must be either in contact or nearly so. This condition must be a prerequisite of consciousness. From experiments it has been shown that the nerve cells are decreased in volume and contents by fatigue. They are retracted and evidently not in relation with each other. A general retraction of the neurons must mean absence of function, unconsciousness, sleep.

Likewise, when a man receives a severe blow upon the head the neurons suddenly retract their extensions and unconsciousness results. Other forms of unconsciousness may be similarly explained, such as that produced by chloroform, ether, or sleep produced by drugs. In these conditions it would appear that the neurons, by virtue of the direct action of the substance introduced into the circulation, retract their extensions and temporarily sever their relations with each other.

With this brief outline of the theory of nerve action, Dr. Dercum took up the question of the probable changes that take place in the neurons when a thing is heard, felt or seen. He took for an illustration the sense of hearing. The sound vibrations strike upon the nerve cells in the interior of the ear and produce in them a change which affects the relations which their extensions bear to the nerve cells of the auditory portion of the brain. It is probable that the effect causes them to retract and to change the relations which the various neurons of the auditory cortex bear to each other, and it is also evident that the same sequence of sound vibrations must always produce the same changes. Given sounds must produce the same combinations, and these combinations continue as long as the vibrations strike upon the ear. These combinations, there-

fore, bear definite and fixed relations to the external world.

Following in this line, Dr. Dercum expressed the belief that conception consists in the reforming among the neurons an old combination, such as was originally produced by a physical impression upon the organs of sense, but is now produced by some other agency.

In applying this theory to the phenomena of memory Dr. Dercum said that memory did not depend upon fixed cerebral structure, but upon the combination of the neurons formed from time to time, being the same or similar to those which have been formed before. For instance, the excitation caused by a series of sound vibrations in the auditory area of the cortex gradually diffuses in various directions; there passes through the general cortex of the brain a series of combinations among the neurons along the oldest and best traveled lines. At first a given sequence of musical sounds suggests merely a familar air, but a moment later, when the movement has diffused as far as the visual areas of the cortex, old combinations are formed, which now give rise to visual memories, and instead of merely the memory of a familiar air, we have in addition a visual memory of an instrument or person with which the air is associated.

In other words, Dr. Dercum makes an actual combination of related physiological elements, corresponding to the generally received notion of an association of ideas, to account for memory. With this understanding, a sequence of thought is explained by the movements of the neurons; if from the hour of awakening they are constantly responding to stimuli from without by changes in their combinations, the sequence of thought itself depends upon these changes. The direction of thought and association of ideas must depend largely upon the frequency and readiness with which special combinations of neurons have been and are formed.

Dr. Dercum then briefly alluded to the application of this theory to various pathological conditions—the phenomena of insanity—in which combinations are formed as the result of pathological conditions, and not in response to normal stimuli from without or within.

He also stated that this theory, based upon the mobility of the neuron, is the only one which affords a rational explanation of hypnotism, which is a partial sleep; a condition in which only a portion of the neurons have their extensions refracted; where the visual area of the brain is first disconnected and the other neurons of the cortex gradually become so until the auditory channels alone remain active and respond to outward vibrations. While in this condition spoken words from the experimenter communicate through the auditory channel movements to the motor area of the brain, and lead the individual to perform certain automatic acts.

WOMAN'S RIGHTS.

ALTHOUGH there may be two opinions as regards the wisdom of at present extending political suffrage to women, there can be no doubt as to the fact that she is accomplishing by organized systematic and energetic worth, directed on purely conscientious lines, more for the rising generation, more for the public health, than has been accomplished in any other way. The labors of the Ladies' Health Protective Association and the magnificent results in doing away with nuisances which had long been a detriment to the public health, a stench to the nostrils and a disgrace to the city, is the proof of the correctness of our statement.

Work in another direction by an equally energetic association of ladies is bearing ripe fruit among the thousands who attend our public schools, influencing their future lives for good by inculcating in their minds the lesson of beauty and harmony. More than 250,000 children are gathered day by day within the walls of our public schools. A very large number come from homes amid surroundings where nothing wholesome ministers to that sense of beauty and refinement innate among children. The object of the association is to surround the child with an atmosphere of art and beauty, thus enabling it to grasp the pure and high ideas which a knowledge of beauty develops.

This is accomplished to a certain extent by making the walls of the school rooms not only beautiful but instructive with engravings, photographs and plaster casts, and the windows bright with the colors of fragrant plants growing in pots on the window ledges. Through contributions to the fund the work is going forward so rapidly that in a few years these lessons of beauty will be taught from the walls and windows of every school edifice in the city, and the benefit of such lessons to the thousands in their tenement homes upon their future lives no one can estimate. The ladies deserve and will receive the warmest thanks of the community for carrying out an idea so full of beauty and promise.

HAHNEMANN HOSPITAL.

THE work of the Hahnemann Hospital during the past year has been unusually successful in all its departments. The maternity, the medical and surgical wards and private rooms and the children's ward have been well filled with an exceedingly interesting class of cases, while the clinics of the outdoor department, under the skillful direction of the dispensary staff, are daily increasing in interest and value. The dispensary treatment is entirely gratuitous, and special pains are taken to exclude all but the really poor from the benefits of the institution. The excellent work of the surgical department is attracting patients

not only from the city but from the surrounding country. Contributing materially to the surgical success is the thorough asepsis insisted upon in the wards and the operating rooms, and strictly enforced through the nurses trained in the hospital training school.

A recent editorial in the *Medical Record* pleads for the more thorough training of young men as experts in the use of anæsthetics. This most important work forms a part of the routine duty in the training school, of every nurse. Under the instruction of one of the best experts in anæsthetics in the city, the Hahnemann Hospital nurse is so thoroughly trained in the use of anæsthetics as to have all the skill and judgment of the expert. Much has been done during the past year to place the Hahnemann Hospital upon a basis in which no case of deserving charity applying for admission shall be excluded for lack of funds. The far-seeing and energetic President of the Ladies'. Aid Association, Mrs. Howard Carroll, inaugurated a movement through which three beds have been endowed for the National Guard. This will be followed, under the same auspices, by a water party, the last of May, for the Free Bed Fund of the Hospital. In addition to these steps to enlarge the resources of the hospital, Mrs. Minnie Maddern Fiske has tendered a benefit at the Fifth Avenue Theatre on May 4 for the Free Bed Fund of the Maternity. Divorcons, as presented by Mrs. Fiske and her star company, will not only fill the theatre, but add in a rich degree to the power of the Maternity to carry on its beneficent work.

The Hahnemann Hospital is daily attracting more and more attention, and every dollar contributed to its funds will yield a rich return in actual good accomplished. The work of the hospital has never been so extensive and the relief afforded so great as during the past year.

THE GERMAN EMPEROR.

REPORTS have been circulated from time to time, in view of the eccentric and sometimes arbitrary movements of the Kaiser, that there is in him an element of insanity which may at no remote date necessitate a change in the head of the German Empire. The *London Times*, in discussing this matter from a physical point of view, says: "This monarch suffers from many infirmities, viz.: an undeveloped arm, an ear trouble and bad general health. These defects alone would in an ordinary person be considered sufficient to account for eccentricity and want of mental balance. If one limb be undeveloped there may be a corresponding defect in the opposite half of the brain—a lopsidedness close to some of the important centers. The ear disease may be of an irritatous character, causing irritability and uncertainty of temper. Well known and perfectly obvious as are these anatomical deficiencies, they are not taken into account as influencing emperors and personages in high places. The Kaiser ignores councils and councillors; he rejects experts and passes for one himself. Surely such a condition cannot be a political puzzle; it must be a pathological, psychological study. The personal equation was never so well shown, and never so dangerous—because respected and not discounted.

MARRIAGE IN HIGH LIFE.

THE Medical College of the New York University and the Bellevue Hospital Medical College have been united in one corporation by the State Board of Regents, under the control of the New York University. The name of the newly married pair will be the New York University Bellevue Hospital Medical College, thus recognizing in the twain the bride and groom.

Chancellor MacCracken says: "The combination will make the largest and most thoroughly equipped medical college in this country, and will rival the great medical colleges of Germany, France, England and Austria."

During the fifty years' existence of the University Medical College and the thirty years' existence of the Bellevue Hospital Medical College 11,434 physicians have been graduated from them. The enrollment of students last year in both schools was 1,057, and there are 116 members in the combined faculties. Under the consolidation the college will have an annual income of about $160,000.

The union of these two schools is a most significant indication of the progress of the times. The Bellevue Hospital Medical College has always been recognized as the exponent of the bigotry, the intolerance, the hidebound rule of the worst features of the old school. This University has been more progressive, keeping always to a certain extent in touch with the progress of the times in scientific investigation and in liberality and independence of thought. We look upon the present union as one full of promise to the whole profession, with laboratories thoroughly equipped and in good working order; with teachers in every department in earnest touch and thorough affiliation with the lines of scientific investigation carried on within their own walls, we expect and shall no doubt see results which will do much to make of medicine in art and science a really catholic school.

THE BUBONIC PLAGUE.

THE serum treatment for the plague inaugurated by Dr. Yersen, of Bombay, has met with marked success. Out of fifty cases subjected to the treatment there was a mortality of 33 per cent. Without the treatment there was a mortality of 81 per cent. Dr. Yersen found small doses were not as successful as the larger ones. Experiments for the prevention of the plague have not been sufficiently extensive to warrant an opinion.

DISEASES OF THE SKIN.

"THE Relations of Diseases of the Skin to General Conditions" was the title of a very thoughtful and practical paper read before the Academy of Medicine at its meeting April 1st by the distinguished specialist, Dr. L. Duncan Bulkley. The position taken and forcibly illustrated was, that almost every form of skin disease, even those purely local, required to a certain extent general treatment. With but one exception this principle was but little applied by the general practitioner in the treatment of diseases of the skin, and that was in the use of arsenic, and yet this drug was but little used by dermatologists because it was seldom indicated. The proper treatment of the diseases of the skin required the widest knowledge of general medicine. Out of a record of 10,000 cases of diseases of the skin, Dr. Bulkley found 6,000 required more or less general treatment in addition to local treatment. The remaining two-fifths belonged to new growths, parasitic diseases, etc., which required only local treatment. Even ringworm in children yielded much more readily to local treatment where certain internal agents were used.

The general conditions associated with the skin diseases and giving indication for treatment were connected with certain organs: (1) the digestive system; (2) the liver; (3) the kidneys; (4) the nerves; (5) the circulation; (6) respiratory organs; (7) the sexual system; (8) such general conditions as anæmia, gout, rheumatism, syphilis, malaria, etc. Dr. Bulkley's suggestions are timely with men of all schools. Among some there is a kind of routine practice in looking at all disturbances of the system through symptomatic lenses, and among others only pathological conditions, real or imaginative, are pictured upon the brain and suggest the remedy. A distinguished physician labored for a long time to control a tormenting urticaria with carefully selected remedies, suggested solely from symptoms. After weeks of torture, weary with non-success, another physician was called. When under the influence of a little vichy water, every unpleasant symptom disappeared like magic. There is no class of diseases in the world which require a more general and careful study of the whole system, of the condition of the blood, the excretory, the digestive and assimilating organs than skin diseases. Parasitic troubles generally require local treatment, but even here the general condition of the system should never be overlooked.

PROF. COPE.—The death of this distinguished American naturalist at his home in Philadelphia, April 12, leaves a vacancy in the ranks of scientists that will be difficult to fill. In his labors in paleontology, his favorite branch of science, he possessed a power of philosophical generalization seldom seen, which attracted very forcibly the attention of the ablest thinkers at home and abroad. His papers were full of new ideas, rich in thoughts which were often confirmed by later discoveries to which they led the way. His great works on paleontology, published by the government, and his volumes on batrachia and reptilia practically constitute the summing up of two special lines of zoölogical research.

In his fossil studies in the cretaceous green sands of New Jersey and later in the Miocene formations of Maryland and North Carolina eighty species new to science were discovered and classified. In 1870 he examined the cretaceous regions of Western Kansas, securing twenty-six specimens new to science. In 1872, in connection with the Hayden Geological Survey, he obtained eighty-three new species and in an expedition to Colorado he obtained seventy-five new species, mostly mammals. Explorations of the Iurassic beds of the Rockies in 1877 yielded the largest backbone animals with ambulating limbs known. Prof. Cope's house was filled from cellar to garret with some of the wonderful specimens he had collected in his lifelong work. Occasionally an aged tortoise would wander out from beneath the pelvis of a saurin, and his latest pet was a Gila monster who, contrary to popular belief, was perfectly harmless, and loved to have the Professor scratch his head. At the time death called a halt to the active brain of the Professor, he had nearly completed his great work on paleontology. But one chapter remained, and that will never be written. In it he had traced out his line of thought, each idea fortified he considered by paleontological facts, and in no way the outgrowth of sentiment, that only a portion of the human race is immortal, that immortality, as it regards the human race, is not a

universal law, but depends upon certain conditions for which man is himself responsible. Only a faint outline of his theory can be found among his papers, not enough to form any idea of the successive steps by which he reaches his conclusions. We can only say that every idea from the mind of one so gifted, so thoroughly trained in development and the logic of facts, is worthy of careful study.

WE have received from P. Blakeston, Son & Co., a copy of "Symgomyelia," by Guy Honsdale, M.D. This essay was awarded the Avarengo prize of the College of Physicians of Philadelphia, 1895.

This disease, by no means common, may be defined as a chronic affection of the spinal cord, characterized anatomically by the pathological formation of cavities in its substance, and clinically by peculiar disturbances of sensibility associated with trophic disorders. The seat of the primary lesion may extend as high as the medulla or as far downward as the lumbar region; the seat of the secondary changes is peripheral, involving the muscles, the bones, the cellular tissue, the skin, etc. The author has consulted about all that has been written on the subject, has analyzed 118 cases and presented in a clear and concise manner symptomatic indications, pathological conditions and general treatment.

THE death rate in this city, as shown by the report of the Board of Health, has been less during the past three months of this year than ever before in the history of this city. There has also been a material decrease in the death rate from contagious diseases. The sources of infection have been more closely watched and steps immediately taken in fumigation, in quarantine and in other effectual measures; among the most important, school inspection by medical officers to check the progress of contagion. The Health Board has worked in harmony with Col. Waring and Gen. Collis to give us clean streets and good pavements, each department working with a zeal and energy and sound judgment, which cannot be too highly praised, for the public good. The constant upturning of our streets for pipes and new pavements is of course producing more or less malaria, but the disinfection of the upturned soil practiced by Gen. Collis and the speed with which he is pushing forward the work of repaving the streets make us feel that the army discipline and the sound judgment of one who, in three years, rose from the ranks to the command, as Major-General of armies, is strongly to be commended in the government of a great city.

THE National Confederation of State Medical Examining and Licensing Boards will have a conference meeting at Hotel Walton, Philadelphia, at 10 A. M., May 31st, next. There will be addresses, a discussion of ways and means, etc. We trust that there will be some plan adopted which will simplify these matters so that a qualified physician in one State may practice in another, simply by filing with the proper officer a certificate stating this fact. This is what should be done, and we hope it may be brought about.

GEN. STERNBERG, Surgeon-General United States Army, and Lieut.-Col. D. L. Huntington, Deputy Surgeon-General, have been selected by the Secretary of War to attend the Twelfth International Medical Congress, to be held in Moscow, Aug. 12–16, as delegates to represent the Medical Department, U. S. A.

IT was a beautiful sight and one full of promise for the future to see on the morning of April 14 forty-seven young women in their scholastic caps and gowns receiving at the hands of the Chancellor their diploma of graduation in the Law School of the New York University. Whether they wish to practice the profession in office and court or not, the study of law in itself carries with it so much of thought, of critical analysis of sound logic and practical common sense, upon which all law should be founded, that they must of necessity be better citizens and better wives and mothers. We hail the opening of the learned profession as a long step in advance.

THE FIFTIETH ANNIVERSARY of the American Medical Association will be held in Philadelphia early in June and a programme has been arranged which cannot fail to prove interesting to all who may attend, and the exescises must prove a notable event in the history of medicine in this country. Locally everything is being done by committees, societies, colleges, hospitals, etc., to enable those who may attend, to spend the time enjoyably as well as profitably, and there can be no doubt that the city of "brotherly love" will extend its hospitality in the good old fashion. It it estimated that several thousand physicians will avail themselves of the opportunity afforded by the occasion.

BIBLIOGRAPHICAL.

SCHAEFFER ATLAS OF OBSTETRICS: In the minute detail and life-like color of the plates in which every stage of gestation and labor is represented, has almost the clearness and effect of a dissected manakin. The atlas forms one of a series now being published by Wm. Wood & Co., and will prove of special value to the student and young physician.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX; WORK OF REFERENCE FOR MEDICAL PRACTITIONERS. 1897. Filteenth year. New York: E. B. Treat. Price, $2.75. 724 pages.

This annual is a practical condensation of the vast literature of our profession for the past year, in shape for daily work. The result is due to a vast amount of threshing by competent hands. The articles are the conjoint work of European and American writers, and its character is truly cosmopolitan. The present issue is even better than any of its predecessors, and that is saying a good deal.

PRACTICAL PATHOLOGY FOR STUDENTS AND PHYSICIANS. By Alfred Scott Warthin, Ph. D., M. D., Instructor in Pathology, University of Michigan. A manual of laboratory and post-mortem technic, designed especially for the use of junior and senior students in pathology at the University of Michigan. George Wahr, Ann Arbor, Mich., 1897., pp., 134; octavo.

This is, as the title indicates, a "practical" little book, and withal timely, as it is needed at this moment. The text is concisely and clearly stated, and the work will be found just the thing for the purpose intended. Not only every student but every practitioner who does any pathological work should possess a copy.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In photo-lithochromes from models in the museum of the Saint Louis Hospital, Paris, with explanatory woodcuts and text. By Ernest Besnier and others. Edited and annotated by J. J. Pringle, M. B., F. R. C. P., Physician to the Department for Diseases of the Skin, at the Middlesex Hospital, London. Part VIII.

The following superb plates illustrate the text of this fascicle: Plate XXIX. Epithelioma arising from a lupus scar. Plates XXX. erythema iris, erythema in concentric circles, hydroic erythema, hydroa vesiculeux of Bazin. Plate XXXI. lichen planus of Wilson, of the papulo-erythematous variety. Plate XXXII. biskra button.

TWENTIETH CENTURY PRACTICE. An international encyclopædia of modern medical science, by leading authorities of Europe and America. Edited by Thomas L. Stedman, M. D., New York City; in twenty volumes. Volume IX.; Diseases of the Digestive Organs. New York: William Wood & Co. 1897.

The volume opens with a very excellent and full discussion of local diseases of the mouth by Johann Mikalize and Werner Kümel, of Breslau; Prof. C. A. Ewald, of Berlin, follows with Diseases of the Intestine. Hernia is ably discussed by Drs. Virgil P. Gibney and John B. Walker, of New York. Diseases of the Spleen, by Prof. Alfred Stengel, of Philadelphia. Profs. Marrana Semmola and Carlo Geofredi, of Naples, devote nearly 350 pages to Diseases of the Liver. Prof. John B. Murphy, of Chicago, takes up Diseases of the Gall Bladder, and Dr. Kendal Franks gives a short but very excellent article on Movable Kidney.

The tenth volume has already been issued, previous to the ninth, which was not at that time completed. It would be difficult to find a more complete medical library than in the "Twentieth Century Practice of Medicine," touching as it does with skilled hands and ripe thought every department of medicine.

A MANUAL OF PHYSIOLOGY, WITH PRACTICAL EXERCISES. By G. N. Stewart, M. A., D. Sc., M. D. Edin., D. P. H. Camb., Professor of Physiology in the Western Reserve University, Cleveland, O. With numerous illustrations, including five colored plates. Philadelphia: W. B. Saunders, 1897; 796 pages, octavo. Price, $3.50.

The author has attempted in this work to interweave formal exposition with practical work in accordance with his plan of teaching, and the book is intended especially for medical students. The subject has of course been brought thoroughly down to date, and the text is so condensed and illustrated as to make it interesting and easy of study. We have no hesitation in placing this book in the front rank as a text book in this important branch of study.

LECTURES ON RENAL AND URINARY DISEASES. By Robert Saundby, M.D., Edinburgh. With numerous illustrations. Second edition. Philadelphia: W. B. Saunders, 1897.

The present edition of Dr. Saundby's exceedingly valuable work has not only been carefully revised with the addition of the new discoveries of the past few years, but also an entirely new chapter on the miscellaneous affections of the kidneys. In the wide range of discussion the diagnosis and treatment in almost every disease are illustrated by clinical cases. One hundred and seventy-eight pages are devoted to Bright's disease, thirty-eight pages to the clinical examination of urine, 171 pages to diabetes, and forty pages to miscellaneous renal diseases. All the subjects are discussed with marked ability, showing extensive reading and excellent judgment.

DISEASES OF THE EYE AND OPTHALMOSCOPY. A Hand Book for Physicians and Students. By Dr. Eugene Fick, University of Zurich. Translated by Albert B. Hale, M. D. With glossary and 158 illustrations. Philadelphia: P. Blackstone, Son & Co. 1897.

Part I. is devoted to methods of examination, including function tests and objective methods. This part of the work is given with such clearness as to render to the student of ordinary intelligence the diagnosis of the various forms of diseases of the eye, which follows in Part II., comparatively easy. The translation is in every respect excellent, presenting in classic English the correct meaning of the German text. The general practitioner will find the work of great use in his daily work. The engravings add much to the clearness of the text.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES AND ANALYTICAL INDEX. A yearly report of the progress of the general sanitary sciences throughout the world. Edited by Charles E. Sargons M. D., Paris, and seventy associate editors, collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps; in five volumes. The F. A. Davis Co. publishers; Philadelphia, 1896.

We notice in the *Annual* for 1896 several important improvements in the construction, which add very greatly to its value.

First. There is an increase in the length of the abstracts, which will furnish the reader with sufficient data to enable him to utilize the author's meaning to the best advantage. To do this one half a million words have been added to the *Annual*, and thus a more complete picture is given to the progress of medical science as a whole. The professional reader if he is well informed must familiarize himself with every branch of medicine. Every disease known represents but one link of a chain, and to totally ignore portions of that chain is to refuse the light its other links may afford, and to limit one's capabilities. To present the salient points in a summary of all the abstracts quoted in the *Annual* and Analytical Index an Cyclopedia of treatment of 305 pages is prepared, covering in condensed form every practical ar-

ticle in the *Annual*, with reference to the article itself if a more full discussion of the facts is required. Among the smaller items of importance we notice: (1) Headings and side headings in large black letters; (2) Prescriptions in full and in the usual form; (3) The collection of all therapeutic subjects in the fifth volume, so as to be easily accessible, and (4) an increase in the number and superiority of the colored plates. Valuable as has been the preceeding *Annual*, that of 1896, in the fullness of the text and the general arrangement, is far ahead of them all.

CLINICAL LESSONS ON NERVOUS DISEASES. By S. Weir Mitchell, M. D., LL. D., Edin., Member of the National Academy of Sciences, Honorary Fellow of the Royal Medico-Chirurgical Society of London. Handsome 12mo., 299 pages, with illustrations and two colored plates. Cloth, $2.50. Lea Brothers & Co., Publishers, Philadelphia and New York, 1897.

The writer was so fascinated by this volume that when he attempted a review he read it through before he knew it. This is saying a good deal, as in these days when we have such a vast number of books, we rarely find time to read every word. This volume, like all the others from this distinguished author, will rank with the classics. The text is in conversational style, is easily read and very interesting. It covers a variety of characteristic clinical cases, just as they are met with in practice, such as various forms of hysteria, melancholia; some disorders of sleep, subjective false sensations of cold, motor ataxia, the treatment of sciatica, erythromelalgia, cases of remarkable spinal curvature, etc.; reflex ocular neuroses, rotatory movements in the feeble-minded, and hysterical contractures.

The therapeutic methods employed in the treatment of these affections are clearly stated in such a way that there is no doubt of the *modus operandi*, and they are the modes employed by a practical, scientific and successful practitioner. The article on "Treatment of Sciatica" is worth the price of the volume.

The subject of "Reflex Ocular Neuroses" has received most careful and unbiased consideration, with the result that the points of absolute failure are forcibly stated, and the practice of tendon clipping in the treatment of chorea and epilepsy in the author's hands has proved of no avail. This is, I think, the experience of the majority.

The book is well worth a place in any medical library.

CORRESPONDENCE.

HEALTH DEPARTMENT.
NEW YORK, April 14, 1897.

To the Editors of THE MEDICAL TIMES:

Among the criticisms of the new charter none has been more severe than that directed against Sections 1247-1249, relating to the duties of physicians in reporting cases of contagious and infectious diseases. These sections are referred to as if they were entirely new and unprecedented, and designed to give the Health Department a dangerous and tyrannical authority over the members of the medical profession. Now, the fact is that these sections are not new. They constitute Sections 608-610 of the Consolidation Act of 1882, under which the city has been governed for fifteen years, and were originally passed forty-seven years ago, Sections 1247 and 1249 being in Chapter 275, Laws of 1850, and Section 1248 in Chapter 384, Laws of 1851. Very respectfully,

GEO. B. FOWLER, M. D., *Commissioner.*

[We are aware of the correctness of the Commissioner's statement, but the sections are none the less faulty for all that and should by all means be materially changed in the new charter.—ED.]

FACTS VS. IPSIDIXIT AND THEORY.

IN TUBERCULOSIS (CONSUMPTION) THE BACILLUS HOMO.

To the Editors of THE MEDICAL TIMES:

The experience of the ages has taught us many facts. Now we have many theories in reference to the above serious question. People who have lived and observed fifty years, and especially every intelligent physician who has that number of years of experience, knows full well that a husband may have consumption of the most tedious and lingering form, his wife may wear herself out in taking care of him, being his most intimate companion—or a wife has consumption and her husband has the same experience, becoming exhausted by his duties through the day and his watchfulness and sleeplessness through the night—and, as is often the case, they are destitute of the comforts and frequently the necessities of life, consequently are the most liable to succumb to a disease like consumption. Yet, as is well-known by all intelligent observers, the companion does not succumb, as a rule, and not oftener than can be fully accounted for by constitutional predisposition. Consequently, we have here an impregnable barrier to the imbecile ipsidixit which now faces us in the proposition to isolate all persons suffering from consumption, which now is proposed in New York and other cities.

But a few years ago we were told by the fadists that sulphurated hydrogen was a sovereign remedy for this disease. Of course that passed away in a year, as all nonsense will. Now they must find another means of magnifying themselves, for this bacillus homo must be magnified or it will never be noticed. It flourishes most largely in State and city boards, nearly uniformly in boards of health; it is remarkable for magnifying itself, and for its regular drafts upon the treasury. We have never known of one of them becoming remarkable for any valuable contribution to human knowledge, or to have been great in philanthropy, or to be remarkably successful in their profession. We have not read of any such recommendations to the veneration of mankind. They tell us that the guinea pig teaches that consumption is communicable. Well, the guinea pig is the grand pet of all bacillus tuberculosis. That is all that is worth saying about him. He is no better authority than the bacillus homo.

The present writer, when thirty-one years of age, was said by two able physicians to be in an advanced stage of consumption. He is now seventy-two and in perfect health, which is not often enjoyed by people of any age. He, like Dr. Parish of prior years, of Philadelphia, did not stay in the house isolated. As these men now propose, they went out among people. Both achieved robust health; but how about the neighbors and those who were intimately associated with them? Alas! alas! they are all now dead. Did we kill them with our expectorations? Not so; for not one of them ever died with consumption. So their deaths are not upon our consciences—the bacillus homo to the contrary notwithstanding.

The question that consumption is contagious is simply bosh; nothing more, nothing less. This is not the ipsidixit of the writer; it is the overwhelming testimony of facts.

Since writing the foregoing, I am glad to have observed that the New York County Medical Association has passed a unanimous vote of disapproval of the foolish order alluded to.

J. W. HUNTOON, M. D.
Lowell, Mass.

"REVENONS A NOS MOUTONS."

The reading of the unusually clever and excellent article upon the "Cause and Treatment of the So-Called Sexual Neuroses of the Male," by Dr. Bukk G. Carleton, prompts the application of the above expression, borrowed from the French, to the few desultory observations proposed by this paper. It was with exceeding gratification that I read the new, scientific and practical views taken by Dr. Carleton of the diseases of the male genital organs

and as they were so entirely consistent with my own abundantly expressed views and opinions respecting the forces of nervous matter in the series of articles entitled: "Nervous Matter; What Is It?" and published in THE NEW YORK MEDICAL TIMES a few months ago, it may readily be understood why I experienced special personal gratification, as I felt that I might in all reason and truth regard the suggestions made by Dr. Carleton as the reflex of my own thought in the direction of the operations of nerve energy in the human organism, and so ably and practically presented by him.

His picture of moral as well as mental and physical decadence and decay is by no means overdrawn, and represents the lineaments of a vast number of the human kind, the hapless victims of vicious indulgences under the stimulus of diseased and perverted nerve force. When an inflamed and irritable clitoris can open the door of a madhouse and put out of sight and hearing the creature wearing the human form, but now transformed into a howling maniac, vexing the air with vociferous blasphemy and worse, it is high time to heed Dr. Carleton's words of wisdom when he says: "The time has arrived when we must call a halt, when we must go deeper than the surface or superficial history in the treatment of these diseases. We must strike at the cause and this we can only do as we become more studious, scientific and practical. Until we do this we are accountable for the wrecks of human beings that we see all around us, not only those who find their way as paretics to the insane asylums, but the great hosts of unsuccessful men without aim in life, without moral courage, or encountered in the less marked cases of eccentricities that maim and destroy them." Now I propose to return to my mutton, not forgetting the sympathies that shall keep me in touch with some of the suggestions embodied in Dr. Carleton's paper, by recalling certain of the original ideas as they may be found in my articles above referred to respecting nervous matter and nerve energy, viewing them in the light of still more modern scientific thought, and venturing possible solutions hitherto occult and even yet the subject of curious and still-resisted and still-baffled investigation.

As I began this paper with congratulations to Dr. Carleton for his conception and treatment of nervous troubles proceeding from the male genital organs, so I will conclude it with the hope that he will continue to go on in the same direction. He is assuredly on the right track. Then let him pursue it with this thought persistently in his mind, that while the nervous system, in its normal condition, gives physical, mental and moral health and happiness, in its abnormal state it is always a fruitful source of evil to man from whatever cause its derangements may arise, and whatever may be his condition in life. A man afflicted with neuro-genital troubles, especially if incurred by the indulgence of his own vicious and degrading propensities had better:

"Live on a pillar, like Simon Stylites,
And go into hair shirts."

Or, better still, get off this planet and let the undertaker

"Rattle his bones over the stones,
For he's a poor devil whom nobody owns."

ALLAN CARMICHAEL.

POST-SCARLATINAL DIPHTHERIA.

In the *Lancet* of November 7, 1896, and in that of November 28, are to be found some interesting communications concerning post-scarlatinal diphtheria.

One case was that of measles complicated with pneumonia, which was afterwards followed by scarlet fever and diptheria (?).

It is not stated whether the diagnosis of diphtheria had been made with or without cultures.

In the North Eastern Hospital, out of 140 cases of scarlet fever, no less than 36 were followed by diphtheria.

In the Fever Hospital of the Metropolitan Asylum's Board, post-scarlatinal diphtheria has been very prevalent.

This condition of affairs has excited a great deal of comment, and many theories have been advanced concerning it.

By some it has been thought that this dreaded sequel to scarlet fever is to be explained by the fact that both scarlet fever and diphtheria are treated in the same hospital; and the supporters of this view infer that the virus of diphtheria is conveyed in some direct or indirect manner from the diphtheria to the scarlet fever wards. By others it is thought that the overcrowded condition of the ward will account for it.

The frequency of cases of mixed infection has not been referred to in either of the articles.

In all severe cases of scarlet fever, we are apt to find a "diphtheritic" appearance of the throat.

Our own observations with regard to this disease have induced us to believe for many years that the cause of scarlet fever and that of diphtheria are identical.

Without entering into the theory of unity in disease, we must recognize the fact that children living in a house in an unsanitary condition are liable to either scarlet fever or diphtheria; in one case the disease may be diagnosed as simple scarlet fever, in another as diphtheria, in another post-scarlatinal diphtheria, and even as "mixed infection."

So far as treatment is concerned, the use of anti-toxine acts favorably in each case.

It has been claimed, and we have found it so in our own experience, that while we may have post-scarlatinal diphtheria, we have never known of a case of post-diphtheritic scarlet fever.

This would seem to be evidence that these cases are simply those of mixed infection, and that the disease in the throat has gotten under headway because it has not been successfully combated.

The absence of the Klebs-Loeffler bacilli certainly does not decide the diagnosis positively any more than its presence. A recent editorial in the *Journal of the American Medical Association* (January 2, 1897) quotes an article of Dr. Peters in the December number of the *Journal of Pathology and Bacteriology*, as stating that the result of a large number of experiments and cultures has produced two types of pathogenic diphtheria bacilli, the long and the short, and two non-pathogenic also, a long form and the short or Hoffman bacillus. The long pathogenic form is the ordinary type; the short is less common and less virulent. The long non-pathogenic form is undistinguishable from the long, virulent type, excepting in its effects, and they may therefore be classed together for practical purposes where inoculation tests are not practicable.

The Hoffman bacillus is common in ordinary sore throat and tonsilitis, scarlet fever, rötheler and in diphtheria in association with the true bacillus of that disease. It resembles the short form of the latter in its mode of growth and to some extent microscopically, but Dr. Peters holds that there is no proof forthcoming that this bacillus is an attenuated form of the diphtheria bacillus, though the short diphtheria bacillus when it becomes non-pathogenic tends to resemble Hoffman's bacillus.

These varieties of bacilli certainly resemble each other to such a remarkable extent that many consider them as "practically the same but differing in form and pathogenic power under different conditions."

This theory is decidedly favorable to those who recognize the remarkable relationship existing between diphtheria and scarlet fever.

Each condition, whether the pathogenic or the non-pathogenic be present, yields decidedly by the use of antitoxine.

Some excellent authority is inclined to believe that the use of horse-blood serum which has not gone through the immunizing process will be found efficacious in the treatment of scarlet fever or diphtheria.

Cases of scarlet fever have been reported where children who were exposed to this source of contagion have developed in consequence diphtheria, and cases diagnosed as diphtheria have apparently induced scarlet fever in those exposed to them, although these latter are exceedingly rare and doubtful. W. THORNTON PARKER, M.D.

Groveland, Mass., Jan. 2, 1897.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

BIOLOGICAL SOCIETY, PRESIDENT M. GLEY.

M. Levêque made a communication upon the distribution of nerves upon the arteries. Some of the nervous fillets are in the superficial muscular layer, others in the deep layer of the vessel, and there exists an independence of innervation of the different muscular planes.

M. Boucheron gave the result of his researches upon the action of anti-streptococcic serum in acute maxillary sinuses, and acute streptococcic phlegmon of the lachrymal sac. He observed that in mucous cavities closed pathologically, the streptococcic exudation may be absorbed by the anti-streptococcic serum.

M. Pilliet described the lesions of the endothelium of the veins in varicose phlebitis as shown by specimens that had been preserved in formaline and colored by thionine. There was a proliferation of the endothelium, such as was recently described by Prof. Cornil, and its transformation into a conjunctivo-vascular tissue entirely special and distinct from the leucocytic destroyers of the red globules which are numerous in the clot adherent to the point of lesion. These lesions are greatest at the contracted portion of the varicose vein. In the dilated portions, there is only the fibrinous clot well-known to the old pathologists. M. Variot addressed a note upon the structure of the peri-medullary neuroglia developed between the piamater and the nervous elements.

Two Cases of Congenital Spasmodic Rigidity, "The Disease of Little," Followed by Autopsy.—M. Dèjèrine: In the first case there was found a double parencephalia manifesting itself during life by symptoms of typical spasmodic paraplegia, and in the second a medullary lesion, equally congenital, that had caused, during life, symptoms of a spasmodic rigidity of the four limbs, especially the two inferior. The second observation demonstrates that the syndroma of Little may proceed from a primitive lesion developed during intrauterine life, whose pathogenesis is not clearly understood, and the hypothesis of intrauterine medullary infection seems reasonable. This lesion, whose topography is so peculiar and so symmetrical—the posterior cornua, with sclerous prolongations into the lateral cord—evidently involves the domain of the pyramidal column, occupying the whole length of the medulla, beginning at the lesion. The very marked predominance of the spasmodic paralysis of the lower limbs in consequence of the medullary lesion, should attract the attention of clinicians and physiologists, for it is not easily interpreted.

ACADEMY OF MEDICINE.

Suppurative Meningitis Consecutive Upon Extirpation of a Fuso-Cellular Sarcoma of the Frontal Sinus, Cured by Opening the Cranium and Irrigating the Piamater.—M. Berger read a report upon this important case of M. Luc. The cure was effected in spite of a pneumonia which interfered with the convalescence. The most interesting fact is the disappearance of cerebral accidents after the incision and irrigation of the meninges. As respects the return of the sarcoma of the frontal sinus, the prognosis should be cautious notwithstanding the extensive ablation.

M. Pèau exhibited a patient from whom he had removed by way of the pubio-perineo-vagino-sacral operation a fibro-sarcoma of the ischio-pubic region that filled the whole pelvis. This operation would have been absolutely impossible without the preventive and temporary pinching of the vessels. He also presented another case as extraordinary, of the restoration of the perineum, vagina, urethra and rectum by autoplasty, and additionally a radiograph of the cranium showing and permitting the extraction of a ball from a revolver that had lodged in the petra—"rocher"—of the temporal bone.

Intragastric Exploration.—M. Delageniere said: A young child of three years swallowed caustic potash. There was a contraction of the œsophagus which did not allow the passage of a sound, or of food of any kind. Gastrotomy was decided upon, and the stomach was found to be contracted, so I did not hesitate to open it extensively in order to examine its interior. A sclerosed portion which extended from the pylorus to the cardia on the interior of stomach was resected, and the mucous membrane was sutured. A sound was then introduced from below upward by the cardia into the œsophagus, and the operation was terminated by creating a gastric mouth. There was no reaction, and the dilatation of the œsophagus was subsequently and quickly made by the olive probe; the patient recovered perfectly. This operation shows the facility with which the exterior of the stomach may be explored, then its contents should be voided by aspiration with a large trocar, the organ freely opened, and its interior examined.

SURGICAL SOCIETY.

Exophthalmic Goitre.—M. Picqué, like M. Tillaux thinks that this disease is very often an affection for medical treatment alone and has no relations with surgery.

Vesico-Vaginal Fistula.—M. Bazy: In a case in which there was total destruction of the vesico vaginal wall, and of a large portion of the urethra, it was necessary to perform five or six successive operations in order to reconstruct the "bas-fond" of the bladder in the first instance, then the septum and finally the urethral canal. As there was incontinence of urine, a tampon which compressed the pubis and retained the urine for three or four hours, was required to be worn.

Supplementary Perineal Urethra in Man.—M. Motz reported case of a soldier who, during micturition voided several drops of urine behind the scrotum; the urethra was free throughout its whole length. After cutting the fistula by a prerectal incision, and without suturing the urethra, the wound healed at the end of twelve days, and the functions were re-established after a certain period of cystalia, probably from a nervous cause; the origin of the fistula was doubtful.

Cancer of the Rectum.—M. Quénu said: In the total extirpation of the rectum two principles present themselves; in the first place, an extensive ablation of the neoplasm and absolute asepsis. But certain precautions are indispensable; they refer to the conditions in which the tumor presents itself—its mobility, its volume and its adhesions to the neighboring organs. As respects the last, the adhesions of cancer of the rectum to the prostate should not be considered as a contraindication, and the ablation possible, a catheter in the urethra is sufficient to permit its avoidance. The contraction of the levator-ani muscle is of great importance. It must be recognized and cut anteriorly. When the vesiculæ seminales or the bladder appear to be involved their resection may be made.

Pyloric Stenoses.—Dr. Dupuy admits three forms—the anatomical or fibrous stenosis, the spasmodic and the neoplastic. In the first are included cicatricial stenosis and another congenital or acquired variety whose pathogenesis is obscure. The second comprehends hysterical spasm, the spasms caused by lesions of the gastric mucous membrane or by excess of acidity of the gastric juice. The third is due to cancer. As respects the rules of treatment, hygienic diet occupies a prominent position, and when not sufficient then the surgeon may interfere. The difficulty is to seize the psychological moment for interference, but not to wait until the cancerous degeneracy has become too extensive nor the strength of the patient too much enfeebled.

Rational Treatment of Pulmonary Tuberculosis.—Dr. A. Guimbail agrees with Prof. Graucher that pulmonary tuberculosis is a curable disease. After very extensive considerations of the prophylaxis of tuberculosis in an individual who is predisposed to the disease, Dr. G. explains his method, which comprises, besides regimen, four therapeutic processes to be subdivided according to necessity, viz., external revulsion, internal and external antisepsis, and external tonics—physical agents. The external revulsion should be made by means of cauterization, "pointes de feu," and applied with a free hand, "larga manu." The internal antisepsis is effected by subcutaneous injections

of a mixture of gaiacol, iodoform and eucalyptol in sterilized oil. External antisepsis should consist of inhalations of formic aldehyde after the method of Dr. Ghirelli. Medication by physical agents made by pulmonary gymnastics, air cure, light cure and saline cure. The regimen should be rigorously maintained and regulated, and the functions of the skin carefully kept in operation by cleansing baths.

Extra Uterine Pregnancy at Term, Fœtus Retained Three Months. Total Ablation of the Fœtal Cyst; Abdominal Hysterectomy, Cure.—M. Routier: The cyst, when removed, weighed 5,275 grammes. The symptoms were those of a multilocular cyst of the right ovary. The uterus, which adhered to the cyst, bled like a sponge which necessitated total abdominal hysterectomy as a hemostatic measure. The operation was complicated by the accidental opening of the bladder, which was immediately sutured, and the section of the ureter gave no inconvenience, the ureter having been obliterated by the pressure of the tumor for a long time, and the kidney no longer performing its functions.

Pinching the Cord with a Safety Pin.—M. Porak read a report of a memoir by M. Basallier indicating the use of the safety pin to pinch the cord as a more rapid measure than the ligature. This may be useful in a case of pressing need, but it has the inconvenience of not completely stopping the flow of blood if the pin is malleable, which often happens; it is a method of urgency, but not of choice.

Intestinal Lithiasis, and Gravel of the Intestines.—M. Dieulafoy: There is an intestinal as well as a biliary and urinary lithiasis. It may be formed of sand, of gravel, or even of calculi, and they are composed of organic stercoral matter, and of inorganic matter, in which the salts of lime and magnesia preponderate. The organic and inorganic matter are associated in variable proportion. Intestinal lithiasis is very often accompanied with mucomembranous enterocolitis. Respecting its pathogenesis, it often forms part of the gouty diathesis. There is an intestinal gravel diathesis as there is a biliary or urinary. Per contra, there are cases of intestinal lithiasis which are not associated with a gouty diathesis, and certain cases of urinary and biliary lithiasis. Intestinal lithiasis does not reveal its presence by any special symptom, but most frequently it causes painful abdominal attacks, veritable intestinal lithiasic colic of variable duration and intensity. These are followed by an emission of sand or gravel or grit with or without glairy or membranous matter. They should not be confounded with hepatic colic or appendicitis.

Surgical Treatment of Exophthalmic Goitre.—M. Schwartz: Operated upon a patient—a woman—who had had the disease for a year. It was very marked, the thyroid body contained a tumor, small, but prominent, and the predominating symptom was tachycardia, the pulse reaching 140. The general health was bad, and it was decided to remove the thyroid tumor, but in the course of the operation there was a frightful hemorrhage and hemithyroidectomy suggested itself, but tamponing with antipyrine controlled it. For three days the tachycardia increased, for which bromide was given in large doses; patient finally recovered. M. Tuffier operated successfully in two cases of exophthalmic goitre in order to avoid the toxic accidents caused by the escape of the thyroid juice and its extravasation into the cellular tissue. The best mode of prevention is cauterization of the surface of the wound by the heated iron. M. Poncet observed toxic accidents after total or partial thyroidectomy, so he gives the preference to the treatment used by M. Jaboulay; viz., bilateral section of the great sympathetic, which has already been successful, is certainly the method of the future, and is followed by no accidents.

Sero-Reaction of the Placenta and of the Fœtus of a Woman Affected with Typhoid Fever During Gestation.—MM. Mossé and Daunic, of Toulouse, presented the first observation in which the investigation of sero-reaction was made after delivery at term, and it showed that the power of agglutination extended from the maternal to the fœtal blood, hence the following conclusions were admissible:

First. The sanguineous serum of a child born at term of a mother affected with mild dothineuteritis during the sixth month of pregnancy, yielded very clearly the characters of Widal's reaction.

Second. The agglutinative property was evidently less vivid and less instantaneous than that shown by the humors of the mother. Milk or bloody serum and the comparison of the lamillæ and tubes was very apparent.

Third. The anatomical structure of the placenta was normal, and hence this organ was not a perfect filter.

THERAPEUTIC SOCIETY.

Hypertrophic--Cirrhosis--Alcholic--Successfully Treated by the Hippurate of Lime.—M. Poulet presented a case of the above treated by a syrup of hippurate of lime in doses of three grammes of the active substance daily, a few granules of the sulphate of strychnine and an antimonial plaster completed the treatment. The patient could not bear the milk regimen, but took other food, and soon began to improve. M. Poulet was convinced that the hippurate of lime does not act by the hippuric acid, but by the lime which it contains, and which facilitates the peptonization of the food, and also by some action upon the liver that is difficult to explain.

M. Sevestre is of the opinion that tubage is not contraindicated in diphtheria in children affected with rougeola. He thinks that M. Josias, who believes that tracheotomy is alone indicated when croup coexists with rougeola, and that tubage is dangerous, is too exclusive. M. Josias replied that if he preferred tracheotomy to tubage in the croup of rougeola, it was because he had not been successful with tubage. The results obtained by M. Neuer coincided with his own observations.

Accidents Caused by Antipyrine.—M. Lyon reported a case of poisoning by antipyrine after taking two small doses. The patient was affected each time with dermatitis and pemphigoid stomatitis. There was also albuminuria, and M. Lyon was convinced that the renal insufficiency was the cause of the accidents. Other cases of cutaneous eruptions caused by antipyrine reported, and M. Pouchet was astonished that among the accidents due to antipyrine no mention was made of cardiac troubles, cyanosis, and much more important than cutaneous eruptions. M. Bardet reported painful swellings, with phlyctenæ of the feet, hands and vulva, due to the same cause.

TREATMENT OF NEURASTHENIA.

Neurasthenia being a disease whose symptomatic expression is essentially variable and changeable, not only in different individuals but in the same person, it is indispensable, before beginning its treatment, to examine well the patient, to inquire into his particular and heredity antecedents, mode of life, constitution, and above all the causes that can have produced the disease. Hereditary, arthritism, physical or intellectual exhaustion, excesses of all kinds, poisoning—mercurial, saturnine, alcoholic, etc.—infectious disease, especially syphilis, are so many predisposing causes that may affect the emotional nature and serve in developing the neurosis. As respects dilatation of the stomach and enteroptosis, these conditions undoubtedly do exercise great influence in developing neurasthenia, but they may be an effect rather than an efficient cause of the malady. The incomplete results obtained by treatment exclusively gastric tend to confirm this view; on the contrary therapeutic efforts directed to the nervous system are more frequently crowned with success, and clearly indicate the cerebro-spinal origin of neurasthenia. This theory explains the importance which has always been given to moral treatment. The physician should have complete influence over his patient and his confidence in the treatment he is receiving, and he, the physician, should employ a veritable suggestion, to use a term in hypnotism, upon the express condition that it shall be used, not to subdue the free will of the patient, but, on the contrary, to give him full and entire confidence in himself and make him feel within himself the voluntary force necessary to await the effects of time and treatment to effect his cure. The alimentary regimen and general hygiene should vary according to the views taken by the physician of his patient's constitution, his

habits, the condition of his organs, etc. Syphilis, impaludism, poisonings by lead, mercury, alcohol, etc., will give their own special indications. But there are two medications to which it will always be necessary to have recourse from the beginning to the end of the disease. They are hydrotherapy and tonics. There are very few patients who will not bear hydrotherapy, provided its exact mode or application is found. Ablutions and cold douches, followed or not by stimulating frictions, should not be prescribed except for patients who are strong and already accustomed to them. For the majority it would be well to employ warm douches—34 to 35°—and applied from one to three minutes. They are always well received, quickly provoke reaction, and will give excellent results when cold water cannot be borne. As respects the use of tonics to combat the muscular and cerebral asthenia, which are the predominating characteristics of neurasthenia, they should form a part of the regimen of the patient as well as his bread and meat. Tonic preparations are abundant, but a judicious choice of them is necessary. The "Kola-Fer Trouette" seems to combine all desirable conditions. The iron, the peptonate, the best muscular tonic, and in this form the most easily assimilable; and the other incomparable tonic of the cerebro-spinal system, Kola, are associated in a form agreeable to take, with a delicious taste, which is a matter to be carefully considered in patients as difficult to deal with as neurasthenics. The "Kola-Fer Trouette" meets the same indications in cases of chlorosis, anæmia, even when not complicated with neurasthenia. Thanks to this treatment, there is rarely an occasion to employ other medication in this disease, except when other phenomena intervene, such as vertigo, pain, insomnia, etc., which may demand special intervention.

The Bubonic Plague in India.—A dispatch from Odessa to the *Times* announces that the Government of the Tsar has interdicted the pilgrimage of his Mussulman subjects to Mecca for fear of propagating the epidemic of bubonic fever. The *Gazette* of Bombay says that the serum of Dr. Haffkine, Pasteur Institute, may be used when the patient is not dying. It has given excellent results.

For the Anti-Ovariotomists.—The operative statistics of Sir Thomas Spencer Wells, whose loss the scientific world deplores, show that of his last 300 ovariotomies there were 95 per cent. of cures. What does M. de Cassagnac think of that!

Certain Truths by M. Henry Bauer.—In the professions called "liberal" pride, vanity and selfishness are united in order to array dear confreres—professional brethren—and dear colleagues, one against the other. Look at the physicians, threatened perhaps at this moment in their positions, their credit, compromised by suspicion; what solidarity or unity do they show? The sentiment of mutual defence among them is entirely exceptional. How often do they unite in opinion against a colleague and stigmatize him as an ignoramus, an empiric or a butcher? If their denunciations should attack the medical "coquins" who force themselves into houses and upon the sick and prescribe useless and murderous operations, the bloody sources of large gains, and all such, then indeed would they be fully justified. But these envious brethren—"camarades"—overlook the medical impostors and deliberately attack the skillful and distinguished physician who enjoys a large practice or the surgeon whose decision of character, address and experience insure him high honor and respect. Success and pecuniary emolument are the one unpardonable evil. This malignity is not entirely confined to the medical profession; it is to be found among lawyers and in other professions also, but all this but aggravates the general prejudices against doctors and practitioners whose great fault is not to know how successfully to combat death.

MEDICAL SOCIETY OF THE HOSPITALS.

Solitary Tubercle of the Medulla.—M. Marfan reported a case of a child which, at two years and three months of age, was suddenly affected with spasmodic paraplegia complicated with fecal and urinary incontinence. The diagnosis of hematomyelia by a solitary tubercle of the medulla was confirmed by autopsy. A tubercle about the size of a small nut was found occupying nearly all of the medullary substance near the emergence of the second and third pairs of sacral nerves, with a hematomyelia of the zone immediately subjacent. There were supra arachnoid extravasations of blood, an ascending hemorrhagic poliomyelitis and an intense and diffused phlebitis of the sinuses of the piamater, whose source of origin corresponded to that of the hematomyelia.

SOCIETY OF LEGAL MEDICINE.

Retrograde Amnesia in Epilepsy.—M. Seglas reported two cases of the above caused by epilepsy, in which there was no trace of alcoholism, traumatism or any other etiological factor. Perhaps this phenomenon is not as rare as is generally supposed, and it should be considered in legal medicine.

M. Charpentier replied that in the eclampsia of pregnant women amnesia presents the same characters as those mentioned by M. Segalas. The patients forget not only their delivery, their pregnancy, but even their names and addresses. J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York.

Treatment of Chronic Gastric and Intestinal Catarrh.—Prof. J. M. G. Carter, of Chicago, in the *American Therapist* for January gives us a practical article on this subject. He has found, as we have, Hydrozone in many instances the best agent to employ. The cleansing of the gastric mucous membrane must be systematic and thorough. This is best accomplished with a solution of green soap or a 5 or 8 per cent. solution of Hydrozone, introduced with the double tube. After first filling the stomach, inflowing and outflowing streams ought to remain about equal or the outflow may exceed the inflow; the distension of the stomach may be maintained by retarding the reflow when necessary. This process can be beneficially accomplished by driving the solution into the stomach under increased air pressure; but when the proper apparatus for this method is not at hand the siphoning method with the single tube does very well. For home treatment, or when the tube cannot for any reason be used, a solution may be made for drinking. For this purpose a 2 or 3 per cent. solution of Hydrozone is prepared. The patient may take a glassful (8 oz.) half an hour before mealtime. He should lie down at once, remain five minutes on the back, then turn on the right side, where he must remain during the remainder of the half hour. While the patient is on the back the solution comes in contact with every portion of the gastric mucous membrane, and turning to the right side facilitates the emptying of the stomach. By this process the offending mucus is dissolved and carried away, and the organ is put into a proper condition to digest food. The use of Hydrozone has the additional advantage of checking the growth of the bacteria, and probably exhibits greater antiseptic properties than any other agent that can be used in the stomach with the same degree of safety. In obstinate cases this cleansing ought to precede every meal.

Proto-Nuclein in Cancrum Oris and Tic Douloureux.—Dr. Hunter McGuire reports an interesting case of tuberculosis pulmonum cured by metastasis to cancrum oris, the latter being completely cured by proto-nuclein in tablets internally and the powder as a local application.

Dr. Lucien Lofton, of Atlanta, Ga., has used proto-nuclein with success in many cases of tic douloureux, and other cases dependent upon indigestion. As a digestive this remedy is fast coming to the front.

Gold Combinations.—The combinations of gold with arsenic, known as arsenauro, and with mercury as mercauro, introduced by Dr. Barclay, have become eligible vaso-motor stimulants and blood purifiers of the first-class. In our hands arsenauro has proved an excellent tonic in some cases of melancholia when this combination was indicated.

A Substitute for Amputation.—A new and simple mode of treatment has been introduced in France, by which, it is claimed, a large proportion of injured limbs now usually amputated, can be saved. The method, which is due to Dr. Reclus, was recently described before the French Congress of Surgery, and is thus explained:

"Whatever the extent or gravity of the lesions, he never, under any circumstances, amputates the injured limb, but merely wraps it in antiseptic substances by a veritable embalming process, leaving nature to separate the dead from the living tissues. This method of treatment possesses the double advantage of being much less fatal than surgical exaresis, and of preserving for the use of the patient, if not the entire limb, at any rate a much larger part than would be left after amputation.

"He advocates this very conservative treatment on account of the excellent effects of hot water, which he uses freely. After the skin has been shaved and cleansed from all fatty substances by ether, etc., in the usual way a jet of hot water 60° to 62° C. (140° to 144°), but not higher, is made to irrigate all the injured surfaces and to penetrate into all the hollows and under all the detached parts of the wound without exception. This is the only way of removing all clots and to wash away all foreign bodies, together with the micro-organisms they may contain. The advantages of hot water at this high temperature are threefold: First; hot water at this temperature is antiseptic, heat greatly increases the potency of antiseptic substances; second, it is hemostatic; third, it helps to compensate for the loss of heat resulting from the bleeding, and especially from the traumatic shock. After the 'embalming' process, and the dead tissue has been separated from the living, the surgeon has nothing to do except to divide the bone at a suitable spot. According to Reclus the results attained are remarkable."

Ovariotomy During Pregnancy.—Dr. Rufus B. Hall, of Cincinnati, reported in the *American Journal of Surgery and Gynæcology*, a double ovariotomy during pregnancy without abortion. One of the ovaries was as large as a cocoanut and adherent to the pelvic floor and adjacent viscera, while the other was cystic and imbedded in a mass of adhesions. Seven months after the operation the woman was delivered of a healthy, well-developed child, after a perfectly easy and normal labor.

Life Blood Practically Introductible.—It has now been abundantly demonstrated in practice, and only remains to be put into words and remembrance, that blood can be borrowed for us from the most vigorous animals, and supplied to our deficiency either of quantity or of vital power, by either of three modes of conveyence according to convenience or necessity, viz.: by subcutaneous injection into the circulation; by direct absorption into the system through the sides of the alimentary canal, upper or lower; or by topical application to any exposed or denuded tissue whatever, to which the native circulation of the patient fails to afford healthy sustenance and protection, whether through insufficiency, paucity and sickliness of organic cells, or lack of vital and vitalizing energy. That this is literally borrowing life, is only another and more startling way of stating the fact, a fact emphasized in a most remarkable way by the observations of Dr. Brakenbridge of Edinburgh, who found that the vital cells of injected blood not only re-inforced the circulation by their own quantity and quality, but also revitalized and enlarged the debilitated cells of the patient, and excited an immediate proliferation of new cells.

But a last practical question still remains: How to get the blood we desiderate, in its pure incorruptible essence and vitality, on such terms as will be practicable for the general use of mankind, and of the medical profession in particular? The only solution of this problem so far attained—and one that seems as far satisfactory as can now be imagined—happened almost by accident to Dr. W. H. May, of New York, in 1888. Baffled, like all his professional brethren, by an incurable ulcer, he tried the venturesome experiment of injecting around the sore a preparation of raw ox blood, which had been up to that time known as a valuable invalid food only—"Bovinine." Astonished as if he had called up a spirit from the vasty deep, he beheld the power he had invoked, charging from all sides upon the noxious area of disease, with serried columns of vital corpuscles linked in tissue with the flesh behind, and weaving their encroaching parallels against the receding masses of the foe, until an absolute victory was won, and the ruddy flag of life waved over the long undisputed territory of death and corruption. The discovery of this power was afterwards seized upon by Dr. T. J. Biggs, an assistant surgeon in the New York Polyclinic, a man of ripe accomplishments and experience, and of rare professional enthusiasm, who developed new methods and applications from the germinal discovery of Dr. May, up to the marvelous scope and efficacy now exhibited by his clinical reports, which make the marrow of the pages to which the attention of the profession is herewith invited, but which are evidently a bare earnest of vastly greater things to come.

The sum of the matter, as at once philosophically and empirically demonstrated, is (1) that bovine blood under practical conditions, can retain its corpuscular vitality and reparative power indefinitely, for direct operation in the veins, organs and tissues of other beings needing such supply; (2) that this power is available to the human system or any part of it, debilitated, injured, or morbid, by any or every mode of access, either by alimentary or rectal absorbents, by subcutaneous injection, or by outside application to denuded tissues; and that, with even *more* effect (doubtless from more robust quality) than is exhibited by the natural blood of average-healthy individuals in the repair of lesions; (3) that it has a power, as yet mysterious and unexplained, when topically applied, to abolish the most excruciating pain; (4) that whether injected or ingested, it almost perfectly supplies the place of natural blood, to every intent and purpose thereof, in conditions of debility, anæmia, exhaustion or collapse from hemorrhage; (5) that its vital cells (microscopically shown perfect and unchanged from those in the living animal) enter into the wasting tissues of the patient in the same way, and with the same supply of living plasma for repair, as in the ordinary natural sustentation of the system; (6) that these cells possess and exert not only the reparative but also the defensive power as against infection by microbes and other intruders into the blood, that has been demonstrated in the natural circulation, and that accounts for the resistance of healthy men generally to the assaults of disease; (7) by at least plausible speculation, that this mode of reinforcing vitality generally and locally, and antagonizing morbid products and morbific agencies, may yet open up to the conquest of the most formidable plagues and malignant growths—against which it has already made very significant advances.

The Indications for Ventral Suspension of the Uterus.—Dr. Augustin H. Goelet, of New York, at the recent meeting of the Mississippi Valley Medical Association (*International Journal of Surgery*) presented a paper on this subject. He drew especial attention to the difference between ventral suspension and ordinary ventrofixation. The latter fixes the uterus permanently by adhesion against the anterior abdominal wall and substitutes another abnormal position, which may be a little better than the original displacement. Ventral suspension attaches the uterus to the anterior abdominal wall by two sutures only, which include only the peritoneum and subperitoneal fascia of the abdominal wall and the peritoneum and a few muscular fibers on the posterior face of the fundus of the uterus. At first the uterus is drawn up close against the abdominal wall, but subsequently it recedes, the attached surfaces stretching out and forming a strong

fibrous band of about an inch or an inch and a half in length. The uterus is therefore suspended from the anterior abdominal wall in a nearly normal anteposition, and it is fairly movable.

The special indications for this operation are considered to be retro-devations of the uterus fixed by adhesions and prolapse of the uterus. The author believes, also, that the uterus should be thus suspended whenever both appendages have been removed, and in consequence it has been deprived of the support of the broad ligaments.

Domestic Causes of Puerperal Fever.—Dr. W. E. Ground (*Trans. Wisc. State Med. Society*) thinks that the husband, as a factor on the production of puerperal sepsis, has not received the consideration he deserves. He often initiates the septic process in his wife soon after marriage by inoculating her with the gonococus, and when she is near the end of pregnancy he comes home with a soft chancre and continues his septic and sexual relations with her. Most men touch their penis several times a day while urinating, and yet probably few of them ever think of washing it, no matter how dirty their occupations, before thrusting it into the parturient canal at night. Men sometimes have sexual relations with their wives within a week or two after confinement. The woman develops symptoms of puerperal fever, and the doctor is puzzled to explain the cause, and perhaps lays it to the breasts, or catching cold, or to auto-infection.

The patient does not have many opportunities for infecting herself, but the methods she employs are calculated to be very successful. Most women think any old rags are good enough to receive the lochial discharge. They must be prohibited from so doing. She must also be discouraged from using the family sponge to bathe herself with. The surgeon would do well if he ordered all wash rags and sponges used for such purposes burned before labor begins, for they will turn up unexpectedly a dozen times during the confinement unless they are entirely out of reach. Only recently he had prepared a parturient woman in a thoroughly aseptic manner, when she found it necessary to visit the closet and while there the waters broke and began dribbling away, when she promptly applied the bathroom sponge to the vulva, where he found it an hour later. These may seem to be little things, but if we expect to do aseptic surgery and get desirable results we must be eternally vigilant.

A Careful Consideration* and trial of the various methods of treating the syphilodermata has led me to the following conclusion:

1. In the primary stage, when only the chancre is present, no general treatment, calomel locally.

2. As soon as the secondary period sets in, as shown by the general adenopathy, angina, cephalalgia and eruption, the internal treatment for mild cases should be ¼ to ½ of a grain of the proto-iodide of mercury t. d., continued for three months, or until the symptoms disappear. In severer cases, with pustular eruptions, severe anginas, persistent headaches, etc., a course of six to ten intra-muscular injections of 10 per cent. calomel-albolene suspension, 5 to 10 minims at intervals of five to fifteen days, should be employed.

3 After completion of the course and cessation of the symptoms, employ tonics, etc., without specific treatment for three months.

4 Thereupon a second calomel course as above, plus a small dose (15 grains) of iodide of potassium in milk after meals. This to be given whether later secondary symptoms of the skin and mucosae appear or not.

5. Second intermission of treatment, lasting three to six months, according to the presence or absence of symptoms.

6. In the second year, if tertiary lesions marked by deeper and more localized ulceration are present, give the iodide of potassium in increasing doses (60 to 600 grains daily), as may be necessary. Combine with it occasional courses of calomel injections. If no lesions appear, give a mild course of both.

The best local treatment of the syphilodermata is with the mercury plaster-mull.

* Abstract of clinical lecture delivered at the New York School Clinical Medicine, November 25th, 1896.

A Test for Albumen in the Urine.—Dr. Alexander C. Ewing, *Medical Record*, proposes the following test for albumen in the urine:

Draw up into a small glass pipette, or tube, about an inch of the urine, let the finger remain tightly over the top, and insert the pipette into nitric acid and draw up under the urine about the same quantity of acid, when, if even a trace of true albumen be present, there will appear a beautiful line of demarcation between the acid and urine. This test is as accurate as it is simple, and, besides, is decidedly economical and far less trouble than all others.

Health and Physicians.—An intelligent correspondent of our St. Petersburg contemporary, the *Novoe Veremya*, has applied the test of mathematics to the question of physicians in Russia, and has determined that in the Empire of the Czar, with a population of 110,000,000, there are only 18,334 physicians, or one to each 6,000 inhabitants; whereas in Germany, France and England the ratio is one to 3,000, 1,800 and 1,500 respectively. In other words, there are twice as many medical men and women in proportion to the total population in Germany as there are in Russia, and four times as many in England as in Russia, and twice as many in Germany, France having more than Germany and fewer than England. This Russian correspondent deplores the scarcity of physicians in Russia and he ascribes the lack of sanitary arrangements in many portions of the Russian empire to the absence of physicians, as well as to the small influence exercissd by those there.

Now, there are in the United States 120,000 physicians and surgeons, or six times as many as in Russia, says the New York *Sun*, though the present population of the Russian empire is 110,000,000 and the present population of the United States not in excess of 75,000,000. But the number of physicians and surgeons varies according as the designation is understood. In those European countries in which a large standing army is maintained, there are many physicians connected with the military and many with the naval service. In some countries these military and naval physicians and surgeons are included in the enumeration; in others they are not. Again, in some European countries the trained women nurses are included in the number of physicians. There are many such in Russia, the women of that country seeming to be singularly well qualified for such duties. In Belgium, following an old custom, the licensed apothecaries are also included in the number of physicians under the theory that being authorized by law to prescribe remedies, they are entitled to recognition as doctors, though the learned degree of M. D. is withheld from them. In Holland, dentists are also included in the Government reports as surgeons, and it may be that in some other countries barbers are included, as once they were.

The European land in which the proportion of physicians and surgeons is most numerous is in Scotland. The high repute in which Scottish practitioners are held is well known, but the service of Scotch doctors is not limited to Scotland, for they are to be found in every country where the English language is spoken. The European country in which, according to the population, physicians are least numerous is Russia, and next to it in the list is Italy, there are, in proportion to the population, more doctors in Ireland than in England, and many more in Spain than in Italy. In France the number of physicians has declined of late years, and as they have decreased the death rate has decreased too, though of course this is merely one of those coincidences which keep the study of statistics from becoming monotonous.

There are, as we have said, more than 120,000 physicians and surgeons in the United States, and where is there to be found anywhere a body of professional men

better skilled in science, more devoted, more progressive, more prompt in removing pain, or more intelligently active in utilizing the discoveries which have transformed, and are transforming, the entire science of medicine? But the ratio of medical practitioners to the total population has probably very little to do with the healthfulness of a country. It is not the number of doctors, but their skill, learning and efficiency which form the best barrier against the ravages of disease.—*Exchange.*

Improved Preventive.—Weisel (*Wiener Klin. Rundschau*) presented an article at a recent meeting of the Medical Association at Prague, first remarking that since the medical congress at Amsterdam, when Drysdale first publicly announced that there were occasions when a physician was justified in supplying a patient with some means to prevent conception, many devices have been invented, but none have proved reliable except Mensinga's pessarium. Even this has the disadvantage that it can only be inserted by a physician. Weisel's invention is similar to this, but is made so simple and so strong that no skill is required to introduce it. It consists of a hollow rubber cone and rubber disc connected by a spring. The disc fits tight in the vagina, which it closes completely, without inconvenience of any kind. Waldek and Wagner, of Prague and Vienna, are the manufacturers.

Flavoring Breast Milk.—Administering to the mother the volatile oils, such as anise, nutmeg, etc., by imparting a pleasant flavor to the breast milk, will sometimes cause the child to suck more eagerly and vigorously, and thus by reflex irritation of the nipples serve to increase the flow of milk which is becoming scanty.

Books.—Drs. du Cazal and Catrin (*L'Union Med.*, I. P., 608) from personally conducted experiments conclude: 1. New books, without being sæptic, do not contain pathogenic microbes. 2. Books of hospital libraries may transmit Klebs-Loeffler bacillus, the streptococcus and the pneumococcus, but Koch's bacillus cannot be transmitted in this manner. 3. Only unbound books should be placed in the hands of patients, and these should be repeatedly sterilized.

Sterilized Olive Oil as a Local Anæsthetic.—A fluid injected into the thickness of the skin, by driving away the blood and temporarily preventing its return, produces an anæmia that renders the nerve filaments insensible. M. Loup (*Bull. Med.*) acting upon this principle, has succeeded, by means of a perfectly neutral substance—sterilized olive oil—in producing an anæsthesia sufficient for the painless extraction of teeth.

Kola.—What is the truth in regard to the efficacy of the kola nut—*sterculia acuminata?* As Dr. Gustavus M. Blech remarks in a recent paper, to which we are indebted for most of the ideas here advanced, it probably lies midway between the extravagant claims made for this remarkable product by its admirers and the condemnations of those who denounce it as worthless.

In the first place, it should be noticed that kola is an *antidote to alcohol.* As such it is employed alike by the negroes of Jamaica and the natives of South Africa, the former claiming that swallowing a single nut, ground up and made into a cream or paste with water or spirits, will cause all signs of intoxication to disappear in half an hour. Strong coffee has likewise a sobering effect in alcoholic intoxication. The percentage of caffein in kola is 2.348 against 1.01 in coffee. Kola, therefore, is modified by combining it with alcohol, and the patient who takes wine of kola will obtain very different effects from one who employs kola alone.

The Kola preparations for the market may be divided into two great classes, alcoholic and non-alcoholic, and each class may be subdivided into preparations from the fresh, undried nut and those made from dry nuts. The objection which has been urged against the dry nut is that Kolanin is decomposed during the process of drying. That there is a difference between the dry and the undried nut has been shown by investigators; but the cause for that difference can hardly be considered settled.

A very determined effort is being made to force a wine of Kola on the market as a beverage to rank with the caffeinic beverages. Unfortunately for the reputation of Kola itself, their push has been to introduce a wine medicated with Kola, the dose given on the bottle being a wineglassful (2 fluid ounces) containing 30 grains of Kola and 200 minims of strong alcohol. Such a compound must depend for its action mainly upon the presence of alcohol, and has so many objections to it as a beverage for the masses, that it is a pity it was ever put on the market. The advertising methods of this concern are highly ingenious, yet their efforts are not likely to meet with final success as Kola possesses a disagreeable taste, while tea and coffee have an aroma all their own. The United States Army is now experimenting with Kola as an emergency ration, and if a report of the investigations is finally published we may be able to learn much more than at present appears in literature about the African Kola nut.

There can be no doubt that kola is a valuable caffein-bearing plant, and that it contains a glucose side peculiar to itself, to which its advantages over other caffein stimulants may be due. But it should not be used indiscriminately, for the law still remains in force that the amount of energy in a given amount of food is always one and the same, and he who attempts to do work without proper rest and food must take the consequences.

Kola has been recommended in nervous affections, cardic affections, diarrhœa, confinement, alcoholism and in sea sickness. Dr. Blech has found it very useful in debilitated states of the system generally, in reflex asthma, but never in asthma of cardic origin. As an aphrodisiac it has given him wonderful and surprising results. He uses it with alcohol and without alcohol, and finds that in some cases the combination produces results that cannot be obtained from either drug when used alone. Like coffee, it causes insomnia in a certain proportion of cases, and like that beverage has a tendency to induce sleep in other cases. Like all other drugs, it will not fit every case, neither can every case be made to fit it. "Therefore, when you prescribe kola and it fails to produce the effects claimed for it, make up your mind that the fault is in your selection of the drug for the case, for kola is certain to produce its physiological action, which can be employed therapeutically when the condition is one calling for the drug, but is often worse than useless when carelessly prescribed."

Is there a kola habit? According to Dr. Blech, not a single instance of such a habit is on record. "There is no danger whatever from the use of kola, though there may be from its abuse. When people are tired they should rest, not brace up on coffee or kola."

The physiological action of kola is not entirely due to caffein, however, but to a glucoside, kolanin. Certain it is that while kola resembles coffee in its effects, it is more sustaining to the muscular system than either tea or coffee.

Kola in itself is no more harmful than other caffeinic stimulants. The only serious danger connected with its use arises from its various mixtures with alcohol, which are being extensively dispensed at the soda fountains in all our large cities. One compound of this kind which is widely advertised and drank by bicyclers of both sexes contains no less than 20 per cent. of strong alcohol. The danger to our youth from such a mixture, sold under the guise of Kola can readily be imagined. Many a wheelman, who would not drink alcohol, does not know that in taking kola in this form to fortify himself he is getting a "rum" just the same. The important point for the public to bear in mind is that while kola is in many respects a most valuable drug, they must not suppose that it is harmless. But it is *not* true, as asserted in an article now going the round of the newspapers, that kola must be "regarded with the same suspicion and used with the same caution as opium or morphine."

Abortion from Guaiacol.—A woman, twenty-nine years old and three months pregnant, was given (Petrasko *Pesth Med. Chir. Presse, 1896, No. 5*) at morning and noon three-quarters grain of guaiacol on account of an affection of the left pulmonary apex. On the sixth day, when about twelve grains had been taken, the patient aborted. The physician could find no other reason for the abortion except the guaiacol.

The Nose and Micro-Organisms.—According to St. Clair Thomson and R. P. Hewlett, the mucus in the interior of a healthy nose is practically sterile, while the vestibule and its lining vibrissæ are always teeming with micro-organisms. They have further observed that inspired air, after passing through the nose, is practically sterile. The importance of these investigations in emphasizing the great necessity of proper nasal respiration in reducing the chances of infection to a minimum, says the MEDICAL TIMES and *Hospital Gazette*, cannot be over-estimated. This point has already been insisted upon by Dr. Sequeirs in a paper read before the Hunterian Society. In that paper the writer referred to the fact that in diphtheria 80 per cent. of cases occur between the ages of two and fourteen years, a period during which enlarged tonsils and adenoids are most prevalent, while only 3 per cent. occur after the age of thirty.

A Test for Albumin in the Urine.—Alex. C. Ewing recommends (*Med. Rec.*) the following simple way of applying an old test. It is this: Draw up into a small glass pipette or tube about an inch of the urine, let the finger remain tightly over the top and insert the pipette into nitric acid and draw up under the urine about the same quantity of acid, when if even a trace of true albumin be present there will appear a beautiful line of demarcation between the acid and urine. This test is as accurate as it is simple, and, besides, is decidedly economical and far less trouble than all others.

The Cost of Medical Education in Berlin.—According to the Italian Secretary for Commerce and Agriculture, the cost incurred by a student at Berlin who obtains the diploma of Doctor of Medicine and Physician, is about 2,300 marks. The fee for matriculation is 18 marks; for examination for the Medical Faculty, 242 marks; diploma fee, 440 marks; fees for all necessary lectures, etc., 800 to 1,200 marks; cost of printing the dissertation, about 150 marks; and the necessary books and instruments, 500 marks. In addition to these fees must of course be counted board, lodging and clothes, during the four years of study, and this increases the bill by 7,000 or 8,000 marks.

Eucaine.—This is a new artificial alkaloid, said to be the methylester of a benzoylated oxypiperidine carbonic acid. It is pronounced by H. Kiesel, a Berlin dentist, *Zahnaerztl*, Rundschau, April 5, 1896, as efficient as cocaine in inducing local anæsthesia, and in some respects superior to that drug in dental practice. Kiesel thus enumerates its advantages:

1. The heart is in no way influenced by it. In fact, I have noticed that in very nervous patients, whose pulse had risen to 120 and 130 before the operation, the heart beats became normal and regular very soon after the injection.

2. The anæsthesia is more extensive in area and lasts longer than that of cocaine. In some of my experiments the anæsthesia extended even to the muscles. In one case, where an injection was given over the first incisor, there occurred paralysis of the ala nasi and anæsthesia of the nasal mucous membrane on the right side. The patient declared that her nose felt as if it was stopped up, but the sense of smell was not interfered with.

3. As much as 30 grains of eucaine may be injected without trouble, while an equally safe dose of cocaine is only 1-6 of a grain. Thus, of a solution of 1 to 6½, about 15 per cent., 12 syringefuls would constitute a maximum dose. Half that quantity would, however, under favorable circumstances, be sufficient to render the extraction of all the teeth painless.

4. Solutions of 1 to 6½ in sterilized water are permanent at the ordinary temperature of the room. They remain clear without the addition of carbolic or salicylic acid and do not become flocculent, as cocaine does.

5. Finally, I am informed that it is intended to put eucaine on the market at a price considerably lower than that of cocaine.

Lactation-Atrophy of the Uterus.—Dr. H. N. Vineberg thus concludes a paper in the *Amer. Jour. Med. Sci.*:

1. Modern researches tend to prove that a post-puerperal involution consists chiefly in a reaction and contraction of the individual muscle fibers whereby the whole uterus is reduced in size.

2. When involution goes on to full completion the uterus is reduced to a size smaller than that of the non-parous organ.

3. This condition of complete involution is known as post-puerperal hyper-involution. It is principally seen in nursing women, and from this circumstance has received the cognomen of lactation-atrophy,

4. The so-called lactation-atrophy is a normal and desirable condition. It is temporary in its duration, but very rarely under unfavorable circumstances may become permanent.

5. When the parturient is unable to perform the function of lactation it is the duty of the physician to endeavor to bring about hyper-involution by other means at his disposal. An observance of this course will prevent many a woman from developing a host of gynæcological affections which frequently result from imperfect involution.

Surgical Use of Cocaine.—The following practical observations are quoted by the *American Therapist* from the *Codex Medicus*:

1. The use of cocaine should not be abandoned because its irrational employment has produced deleterious results.

2. Always make a thorough physical examination of the patient before injecting the drug.

3. It should not be used in cases showing organic diseases of the brain, heart, lungs or kidneys, or in persons of neurotic diathesis.

4. Children bear it fully as well as adults.

5. The patient should always be placed in a recumbent position prior to its employment.

6. Constriction should be used whenever possible to limit the action of the drug to the desired area.

7. Use a freshly prepared solution for each case.

8. Distilled water should always be employed, to which phenic, salicylic or boric acid should be added.

9. A 2 per cent. solution has a better effect and is safer than solutions of greater strength.

10. Never inject a larger quantity than 1 1-8 grains when no constriction is used.

11. About the head, face and neck 1-3 of a grain should never be exceeded.

12. When constriction is possible, the dose may be as large as two grains.

13. Every slight physiological effect is not necessarily to be taken as cause for alarm.

14. Cocaine does have effect upon inflamed tissues.

15. In case alarming symptoms occur, use amyl nitrite, strychnine, digitalis, ether or ammonia.

To which we will add: Always use a chemically pure product, free from isatropyl and cinnamyl-cocaine as well as other impurities, the presence or absence of which can be readily ascertained by the simple tests of the United States pharmacopœia.

Removal of Blood Stains.—The best way to remove blood stains, says the *Centralbl. f. Gyn.*, is to soak the towels, etc., in warm water, to which a teaspoonful of tartaric acid has been added. No soap is needed.

MISCELLANY.

—Despatches from Bombay of April 15th notes a great decrease in the virulence of the plague.

—President McKinley's physician is said to be Dr. Newton L. Bates, Medical Director of the navy.

—Uterine fibroids are much more common in nulliparæ than among those that have borne children.

—The House of Refuge on Randall's Island has been quarantined on account of its unsanitary condition.

—The College of Physicians and Surgeons of Chicago is now the medical department of the University of Illinois.

—The New York State Medical Association has demanded representation upon the State Board of Medical Examiners.

—Scotland has more physicians in proportion to the population (*Cin. Lan. and Clin.*) than has any other European country.

—Dr. Paine, of Glens Falls, will resume his trips abroad this summer. Dr. Paine's excursions are among the most popular of the day.

—*Thrombosis.*—An ointment of belladonna and mercury, equal parts (*Med. Age*), is useful to relieve the pain if applied over the course of the vein.

—A merchant in the produce line in England offers free medical advice, by a very successful professional gentleman, to all his customers.

—*Cocaine as a Local Anæsthetic.*—If the solution of this salt is warmed before using (*Med. Age*), its anæsthetic effect is more rapid, more intense and more permanent.

—Philadelphia is to have a special hospital devoted to the treatment of diseases of the stomach. The public announcement is in glowing terms and promises a great deal!

—There are no better intestinal antiseptics (*Cint. Lan. and Clin.*) than benzonaphthol and salicylate of bismuth. A child of six months can take a grain and a half of each at a dose.

—In the Hahnemann Hospital outdoor department a nurse from the training school is assigned to duty in the gynæcological department of the dispensary and one to the surgical department.

—*Hæmorrhoids.*—A simple and effective treatment for itching piles is said to be (*Med. Age*) the application once daily after defæcation of a few drops of collodion on absorbent cotton.

—Dr. William H. Welch and Dr. William Ostler, of the Johns Hopkins Medical School, of Baltimore, have declined the call extended to them by the University of New York.

—Artificial camphor that closely resembles the natural product (*Cin. Lan. and Clin.*) is now manufactured by passing hydrochloric acid into spirits of turpentine surrounded by a freezing mixture.

—*Appendicitis*—In spite of the claims that have recently been advanced by eager young surgeons seeking renown (Dr. Pepper, *Med. Age*), twenty cases to one are cured permanently without operation.

—A law has been enacted in New York making it a felony for any one except a duly licensed physician to have an anæsthetic on his person with the intention of administering it to another person. Violation of this edict will be regarded as presumptive evidence of guilt.

—Potassium iodide has been employed in 100 cases of biliary calculus (Dunin, *Univ. Med. Jour.*) during the past four years, with the best results, not in those where there were merely rare attacks of extremely violent hepatic colic, but in which the patients were more or less constantly troubled with hepatic pain, and where the liver was sensitive to the touch.

Alopecia Areata.—D. Cantrell (Philadelphia *Polyclinic*) states that in the neurotic forms of this affection he has observed excellent results from the internal use of small doses of the extract of cantharides and strychnine in combination.

—Symphytum, it is said, upon the authority of Mr. Wm. Thomson, President of the Royal Academy of Medicine of Ireland, will cure sarcoma. It should be applied in the form of poultices of the comfrey root. It is also claimed that camphorated naphthol injected into the sarcoma will dispel it.

—Is there any truth in the report that the late Enoch Platt, of Baltimore, had intended to build a new Homœopathic hospital in that city to rival the Johns Hopkins Hospital, but that so much wrangling and ill will existed among the Homœpathic physicians, he abandoned the idea and gave a large sum to the Sheppard Asylum?

—The *Physician and Surgeon* (*Med. Age*) says there are 27,000 lepers in Colombia. Does this mean in the United States of Columbia? If so, we fear the *Physician and Surgeon* has been misinformed. Perhaps the printer has made an error as to ciphers. As a matter of fact, leprosy is no more common here than in other South American countries. More may be found in and about the Maracaibo district of Venezuela than in all Colombia.

—In January last a shopkeeper in the suburbs of London (*Med. Age*) was brought before a magistrate for selling "cocoanut sticks," which on investigation were found to be adulterated with 16 per cent. of paraffin. The defendant claimed he "sold the sweet stuff" just as he got it. Nevertheless he was compelled to pay a fine of £2, with 12*s.* and 6*d.* cost. It might be as well if some of our dairy and food commissioners in the United States would investigate the "sweet stuff" with which our own young are being poisoned—there is no place on the globe where cheap confectionery obtains to a greater degree than in the United States, and the word "cheap" is too often a synonym for "nasty."

—At the recent annual dinner in London of the Edinburgh University Club (*Med. Press, Med. Age*), Dr. David Playfair told a good story of a Highland minister who was bidding farewell to his flock. He told them that there was little love of God among them, for God had taken none of them to Himself since he came among them; that there was very little love among themselves, for there had been no marriages since he came among them, and that there was very little love for their minister, for his stipend was small and they had not increased it by a penny. He was leaving them to become chaplain at Inverness Jail, and he would now proceed to his text, "I go to prepare a place for you."

We have all heard of the bicycle face (Philadelphia *Record*), and now it is said there is a new ailment resulting from devotion to the silent steed. This is known as the bicycle eye, and the oculists are rubbing their hands in glee at the prospect of a rich harvest in fees. The "srorcher" who humps himself, with spinal column elevated and nose down at the handle-bars naturally has to use his eyes, as well as the rider who sits straight in his saddle. In order to accomplish this feat a severe strain is placed upon the optic nerves, and an unusual condition of the eye ensues. Experts claim that it takes about two years to develop a case of bicycle eye.

—There is but one step from the sublime to the ridiculous, and "it is often a very short one," pertinently observes the *Texas Medical Journal* (*Med. Age*), which deals with the subject of useless vivisection without gloves. Finally the query is made "what possible good can come from tying a vein or the thoracic duct in a lot of rabbits, for instance, then dosing them with alcohol and taking the temperature?" This with reference to a series of such experiments given with most minute detail in a new journal. In this same periodical referred to, Brother Daniels remarks: "The climax of absurdity is reached in an article on 'The Relation of the Volume of the Coronary Circulation to the Frequency and Force of the Ventricular Contractions of the Isolated Heart of a Cat!'—color and kind of cat not stated, nor whether of the Thomas or Tabitha persuasion."

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.*

By James Robie Wood, M. D., New York.

Identica, Similia, Contraria.
By these signs we will conquer.

PART III.—The sero-therapy of *antagonism.*

The first five years we say: "It is not so."
The next five years: "We knew it long ago!"

OBSTACLES to the advance of *medical* therapeutics are greater and far more difficult to overcome than those which once retarded *surgery.*

Extensive researches, like those of Pasteur, Koch and others, are very difficult in this country, because our Government bars the doors of her treasury against scientific investigations and investigators, more especially if they happen to be medical; except, perhaps, when contagious diseases threaten our ports.

Individual intelligence and energy, combined with the spirit of self-sacrifice, are always at hand, ready and willing to undertake any work required; but what right have we to expect men to struggle and suffer through hunger, thirst and cold, without reward, that we may use the results of their labors at the bedside, and after reaping all the honors and profits, return unwilling recognition and scanty praise for their valuable services? "*Sic vos non vobis vellera fertis, oves.*" Many originators of great thoughts have appreciated the keen irony of the words: "*Ingratitude, for benefits received, pays every debt and cancels obligation.*"

One great disgrace which afflicts us as a nation is that while immense amounts are squandered at the bidding of political schemers, Science, which has no friend at court, no cunning lobbyist to button-hole minds heedless of all the higher necessities of a people, must stand aside or humbly gather paltry crumbs which may fall from the political table.

Look at the United States Coast and Geodetic Survey! More than any other body of men under the Government, the able officers, living and dead, constituting that splendid service, have given world-wide honor to this country, no other Government having a survey that can in any way compare with our own. What has our Government done for it?

Politicians have most grudgingly doled out such miserable pittances for its absolute necessities, that had not the pride of its members and their intense love for their high duties impelled them to surmount most trying difficulties, its work could not have been accomplished. Finally, when too old for work, members of our Coast Survey are suffered to retire, without pension, and endure serious privations.

Therefore medical investigators need not waste precious time seeking *national aid.*

We are told that the learned institutions, particularly our richer medical colleges, will carefully and thoroughly pursue such studies. Unfortunately our medical colleges of all schools are notoriously narrow and one-sided; in guarding their doors against what they consider false theories they frequently leave great truths out in the cold. It has been truly said: "*Those most opposed to new discoveries are generally the workers in the subject they touch upon.*" *

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*The first paper of this series was devoted to an appeal for *fair play* among physicians of all medical beliefs—and concluded with the probable division of future sero-therapies into those of *identities, similarities* and *antagonisms.* Jenner's observations on the peculiar interference of *herpes* with vaccine and variola inoculations were quoted to show how very near he came to discovering a general therapeutic law. A brief account was also given of some early experiments in sero-therapy begun in this city during the year 1875.

The second paper was confined mainly to the sero-therapy of *similarity,* its meaning, and where similar diseases may be sought, especially among the lower animals, and when such similitudes are not readily found, how to produce them by the introduction of toxicants from the vegetable, mineral and animal kingdoms; and particularly by the use of viper and insect poisons to inoculate animals and plants. Dr. Furley's vaccine lymph injections, instituted previous to 1872, as a curative for variola were also noted.

This, the third paper of the series, will take up the sero-therapy of *antagonism.* As *Contraria* hardly expresses the full meaning intended to be conveyed, the word *antagonism* is chosen in preference.

The final articles will attempt considerations of all probable coming laws of cure, also peculiar fads, fancies and ideas and their application in general therapeutics. Last of all will be a general review of what has been gone over, with medical cases to prove each law.

*The following extract from a letter just received from an able and conscientious physician and scientist connected with one of the great laboratories of Germany, to whom I had sent my first paper, explains itself:

"Berlin, May 2, 1897.

"Dear Doctor: The interesting paper, of which you sent me a copy, and especially your instances of the contempt of the French Academy for new ideas that afterward revolutionized human intercourse, reminded me of two personal instances in which I found myself among the scoffers. Following each other within a year's time has led me to realize that age and inertia are beginning to creep on.

"As they may interest you, I will relate them. First, respecting photography in natural colors. * * *

"I had stated very positively that it certainly would never come to pass, for each color would require separate chemical reaction, that would doubtless interfere with the others. By a most simple application of a plate lined with three fundamental spectral hues, the difficulty at present for transparent pictures has been solved, without multiplying the chemical reactions in the sensitive substance.

"Second: Shortly after Röntgen's discovery, the belief it would become useful for physical diagnosis of chest diseases was considered in our laboratory as entirely chimerical. Since I am only at work on new ideas in general, these mistakes were a surprise to me personally, but they are illustrative of the fact *that those most opposed to new discoveries are generally the workers in the subject they touch upon.* And this fact renders one's admiration all the greater for those who are so alive to the weight and worth of *facts,* that, despite all their plans and preconceived notions, are ready at any moment to change their thoughts and actions in *logical,* measured response to new data. * * * Unfortunately, he who deals with scientific problems that often require hours of contemplation in order to simplify their intended solution, is, by this habit of thought, placed very much at a disadvantage. With many, however, who pursue such work, I find the best ideas and greatest help come, seemingly, as by inspiration, generally on awakening from sleep—but only when the matters have been on the mind more or less intently for some time before. So I find also on the other hand, that in conveying new ideas to others it is *very slow work,* especially where any prejudices are to be encountered. * * *

"Germans, as you know, are good disputants, and possessing in medicine both well stored knowledge and well-trained minds, it is both possible as well as a pleasure to teach as well as to learn by disputation. * * * Controversy is the life of German science, as I believe it is the life of nations. * * * I am in hopes that the hard facts that serum-therapy is showing up will finally convince all * * * what the science, and in consequence thereof, the art of medicine must have, or sink to the level of mere mechanical invention."

Such expensive and laborious work must therefore depend upon private liberality and enterprise, untrammeled by so-called "schools of medicine." In this connection it is pleasant to record the wisdom and generosity of several persons who make their wealth a blessing to the community, and therefore to themselves. One such, a public-spirited lady of this country, devotes nearly $30,000 each year to the scientific inquiries of eminent individual scientists. What a noble example for others to follow!

Would our medical colleges have sanctioned the therapeutic heresies of Pasteur and Koch, which savored so strongly of "the hair of the dog to cure the bite?"

This can be answered from the mouth of one of their most eminent professors, a fairly liberal man, and, as the world goes, certainly an honorable and upright gentleman. More than twenty years ago, when asked during his lecture if there might not be some shadow of truth in the very ideas which Pasteur, Koch and Roux have to-day established, he replied with asperity: "If I were told that the moon was made of green cheese, would it be worth my inquiry? Just so do I view the silly question you put to me." Right well do I remember the expression of supreme disdain which accompanied these words.

The older members of the profession have not forgotten the icy atmosphere which surrounded Marion Sims when he came, a comparative stranger to this city, and humbly asked a hearing. Eminent professors of that day, with but few honorable exceptions, used every effort to muzzle him, so as to prevent his surgical innovations from reaching the profession. They even attempted to rob him of honors due to those magnificent achievements which were the result of his untiring labor and zeal. He gave the most efficient of those impulses to gynæcological surgery which has carried it to its present exalted position. As a consequence every new *surgical* suggestion to-day commands a quick and anxious audience. Marion Sims found no such audience until a broad-minded, big-hearted newspaper man, full of common sense, compelled those to hear and heed who should have been his willing sponsors and truest friends.

What wonder is it that so many brainless nobodies rush to the daily press with ideas stolen from their neighbors when they see really great men like Sims ignored or rebuffed through petty jealousy by so-called medical leaders!

Such pigmy littleness, which seldom ceases, encourages charlatans and medical mountebanks, while it discourages and disheartens many timid and unknown original thinkers, who are made painfully aware that a merciless pack of hounds is ever ready to rend each new thought that is not first announced by some prominent "medicine man."

Surgery has passed her thorny road and reached a broad triumphal way; but alas! like many other thoughts and men who bestride the topmost round of fame, Surgery's disciples sometimes help to make the very ladder by which they mounted unsafe for medical thoughts to climb.

Surgery has fought and won the battle which Stupidity for centuries waged against her; but Medicine, still prostrate, is trampled upon and her efforts to develop a therapeutic system governed by true laws of cure are thwarted by those who hate truths which disturb their vanity. Facts are accepted which distinctly declare great principles, but the principles themselves are shunned and derided. The curative value of diphtheritic antitoxin is accepted as a fact, yet *identity* as a therapeutic law is denied.

Vaccination is almost universally accepted, but the law of *similars* as a curative power is not appreciated. These points will be more broadly challenged in a later paper on *general therapeutics*.

Were it not painful, pitiable and humiliating, it would be ludicrous to see the two great dominant schools of medicine, containing as they do honest and earnest men who willingly offer health, and even life itself, for the benefit of suffering humanity, making faces at each other, like silly and thoughtless children, instead of sincerely seeking truths each from the other.

There are *adjectives* and there are occasions when their use would be heard in heaven with applause! This stupid and wicked animosity of educated men supplies the occasion—but where above the bottomless pit can fitting adjectives be found?

Will men who assume the roll of leaders of thought forever mistake pinnacles for foundations and foundations for pinnacles?

All schools contain *much* that is true and *very much* that is false.

Even bacteriology, which we so hysterically worship to-day, while being perfected and confirmed in some directions, in others will surely receive many cruel blows during the coming century; for it is one of the pinnacles which we are now mistaking for a foundation stone.

It is said that honey is more persuasive than vinegar; but who, with one spark of manliness, would choose honeyed words to utter when wife and mother are insulted?

Medicine should be treated as a mother, and to her highest principles true physicians must be espoused—and it is a natural duty to protect wife and mother from insults, even of professional brothers.

Some say that a conservatism which suppresses enthusiasts is salutary; and that if genuine, "Truth crushed to earth will rise again." Ah, this is truly touching in reckless poetry—but in reality it is often unmitigated fiction—for trampled truths have commonly been very slow in rising; thousands are still awaiting resurrection. Many such may yet add golden pages to future therapy. Truth was crushed to earth when John Calvin caused Servetus to be burned at the stake with his writings piled around him to feed the flames; because, forsooth, among other similar blasphemies and heresies, Michael Servetus tried to convince men that the blood circulated through the lungs. That cruel fire crushed this great truth until Harvey demonstrated the circulation of the blood nearly a century later. We need not exult

in the fact that Calvin was not a doctor of medicine, for Harvey suffered bitterly at the hands of his learned brother practioners, who declared his teachings unjustifiable innovations.

Richelieu crushed the application of steam to earth for nearly two centuries, by the imprisonment of Solomon de Caus; but that was nearly three hundred years ago, and he was not a physician. But we must not forget that Ambrose Paré, who flourished a little later, was shamefully persecuted by physicians for tying bleeding arteries instead of continuing the ancient and *awfully humane* application of hot irons, hot oil and hot pitch to arrest the flow of blood. In proportion to the boasted enlightenment of this nineteenth century are we really any better to-day?

Do we not spurn and persecute great truths which anxiously offer their blessings to us?

Perhaps you may think that this prelude dwells more upon mental, moral and physical antagonisms than the therapeutic.

It is of the first importance to clear the deck for action, and in order to do so it is well to put prejudice in chains, for it is constantly encouraging mutiny against commanding truths, else we can never realize that glorious future of medicine which is so fondly anticipated.

We have have already enough facts to justify a firm belief that there exist certain great central therapeutic laws which may be comprehended under the general terms of *Identity*, *Similarity* and *Antagonism*. Doubtless other laws, or shades of these foundation principles, will soon or late be discovered and applied.

To illustrate the law of *identity* we have besides diphtheritic anti-toxin other serums which are prepared by using (primarily) contagious matter from diseases *identical* with those for which the serum is to be used. In this connection Koch's latest utterances are rather startling; he now prefers triturations of what is hardly more than the dead bacilli. In other words, he rolls the century backward to do exactly what the maligned isopaths did when our grandfathers were boys. Having no means of isolating the microbe they triturated for many hours the dried sputa or fragments of the diseased lung, and continued diluting and triturating until a sufficiently safe attenuation was reached. It is the folly of injustice to assert that they had no results.

The example which best illustrates *similarity*, as before stated, is the relation that cowpox bears to smallpox. It has stood the test of a century, and although its brilliant triumphs are constantly before us, yet we never stop to ask if there may not be other curative similarities. Undoubtedly *scores* will be discovered during the coming century.

The two great exponents of laws of similarity enunciated their theories somewhat more than one hundred years ago.

He of England first announced vaccine; then that brainy physician of Germany, who, by declaring a general law of therapeutic similars, struck a sublime keynote; but his disciples carried the great thought no further, and their perpetual hammering upon the same old key became monotonous, and deprived it of much possible usefulness, except its commercial value. Had they moved onward, as their master might have done had his life and vigor lasted, a splendid and harmonious system would have been evolved. But they became like those ancient physicians who refused to advance because, to them, their master's teachings were the beginning and the end of the law, from which it were a crime to appeal. Self-satisfied followers of the great prophet of cures by similars are dishonoring their noble founder by everlastingly mistaking shadows for substance, pinnacles for foundations, potencies for principles. Too late will they awake from their idle dreaming to a realization of their frightful loss of opportunity, when the great physiological school, perfected by getting rid of fussy pomposities, narrow minds, belittling prejudices and a great deal of materialism, will wrest this neglected foundation law of therapeutics, and follow with eager and untiring eye each drug through every tissue of the body, and note with microscopic precision the behavior of organs, vessels and nerves, and their cells and fluids, while under the primary and secondary action of each and every medicament, until the most beautiful therapeutic harmonies are developed. Then the eternal curative principle of "*like by like*," thoroughly understood, intelligently handled, and thereby endowed with vigor and renewed life, will scatter undreamed of blessings with lavish hand.

It is well to remember that prophecies of future therapies are necessarily inspired by the past. Countless facts long considered worthless, and innumerable theories supposed to be exploded, will reappear, to be more honored than they were of old.

Even the fanciful doctrine of signatures may again find entrance to intelligent minds. Its visionary ideas might have been the earliest dawn of therapeutic faith and reason in the savage mind. He believed that the great spirit, knowing his needs, had pictured every organ and condition upon plants so that he might find all needed remedies for his ills.

For ages thousands have clung to this strange belief. Many herbs, by nature stamped with fancied resemblances to organs and fluids of the body, inflamed surfaces and excrescences, have descended from ancient days, and are still employed with abiding faith in their virtues.

As medical men we have much reason to dread our future, for if the threatening social problems find no prompt solution there will be but two classes of maladies to attend: Ills born of luxury and lust, fostered by the selfish control of vast wealth, on the one hand; while on the other, the Government will be compelled to hire armies of medical men to care for those suffering from sickness engendered by the extremity of privation among the ever-increasing legions of the poor.

Shadows from the coming law of antagonism have already fallen upon our therapeutic pathway; within a few decades the substance of those shadows will appear and multiply many fold.

The antagonism of some diseases to others, to

which they bear no resemblance, has been observed, and a sufficient number of cures have been effected thereby to warrant belief that there are antagonistic conditions which may be applied with possible benefit in some apparently incurable maladies.

Can we find them?

In pursuing this mystery, before other lights are thrown upon the meaning of these singular manifestations, we must depend, in a great measure, upon accidental cases and the observations of enlightened empiricism. It will always be more difficult to find antagonisms, while there is a strong probability of our securing abundant curative similitudes.

The coming era may necessitate a division of the profession into two distinct specialties—medicine and surgery—and their many sub-divisions. Practitioners of neither branch will then be permitted to enter the domain of the other, except on rare accasions and for important reasons, dependent upon locality, necessity, etc., or when they have been specially prepared by long and exacting courses of study in both departments, to be so stated on separate diplomas.

Not finding it necessary to practice inefficient surgery in order to hold patients who might otherwise be attracted by another's brilliant operations, then those who, by talents and education, are best adapted to medical work, may devote all their time, intelligence and energy to intricate medical problems alone, until every sense being delicately and perfectly cultivated, they can discern and develope the finer shades of therapy. Then with rapid strides her triumphs will soon bring medicine abreast of surgery's proudest record.

Being so often made conscious of that invincible and unreasoning prejudice which the bitter lessons of centuries of appalling blunders does not overcome, it is too much for flesh and blood to avoid such digressions as are found in this paper, which are intended as pleadings for *justice*, if not generosity, in considering heretofore despised theories.

Physicians have already kindly sent me a few interesting cases bearing upon the three laws herein stated; but as it will be important to offer more in closing this series of papers, I hope to hear from others who have observed evidences of relief or cure during the concurrence of two *similar* or *dissimilar diseases*. After concluding several articles on the application of the laws of *identity*, *similarity* and *antagonism* to general practice, and also an account of isolated ideas and strange procedures of peculiar medical men, I hope to be able to record a number of examples differing from those here given; also suggestions regarding the *production* of antagonistic conditions by the use of venomous reptiles and insects as well as poisonous plants, which could not be included in the present article on account of being unable to complete experiments begun and in view.

Some years ago a physician in this country and one in Europe thought they had observed a modifying influence upon some tubercular diseases by *articular* rheumatism. Having watched a series of cases which seemed to sanction this belief, they attempted to produce articular rheumatism in cases of pulmonary consumption by injections of serum from the vicinity of joints involved, and flattered themselves that they had obtained satisfactory results. I recalled several cases, one of a young lady who came under my care many years ago. Her physician considering the patient incurable had willingly resigned treatment. A short time after assuming charge a painful swelling of one of her knees developed which soon declared its rheumatic character. From its first appearance her cough and expectoration slowly diminished, and within two months there was marked improvement in her general health, as well as local symptoms. The patient finally fully recovered and has remained well. Several similar cases were attended with like improvement. Another patient had profuse pulmonary hæmorrhages, after one of which a sharp rheumatic attack followed, and upon recovery he remained fairly well for some years. During my attendance a painful fistula had developed. He having been told of several persons who had rapidly succumbed to their pulmonary disease after curative operations for that condition, palliative treatment only was permitted. He has remained in comfortable health for some years, his fistula giving him but little annoyance.

Several explanations have been given to account for the remarkable relief in such cases, some persons doubting the character of the pulmonary trouble.

After a succession of similarly relieved cases had begun to gratify hope, another patient came to me in whom a severe attack of rheumatism had already appeared. She had a delicate "pink and white complexion," and was one of a family of seventeen children, the majority of whom had died of tubercular disease. I rejoiced on account of the rheumatic complication. She soon left for Europe, and upon her return passed the summer at the seashore, where she died. Although hers was not *articular* rheumatism, which was the only form supposed to be of curative value, yet my faith was shaken.

In the future the great advance in chemical and microscopical work may enable us to determine the antagonistic character of certain microbes or of the fluids in which they exist, and their proper application in such diseases.

This unsatisfactory record is made hoping that others may be sufficiently interested to verify or dispute results.

I now turn to a more fruitful, although little cultivated, field, still uncertain as to its exact sphere. To several serious afflictions, erysipelas is an antagonist of no mean power, having proved decidedly beneficial in several maladies commonly considered incurable, or nearly so. All know of its therapeutic value in at least one form of sarcoma, so it is unnecessary to do more than repeat Dr. W. B. Coley's opinion, to whom so much is due for calling attention to its curative value. He says of his toxin treatment of malignant growths that: "The melanotic variety is scarcely

at all affected; round-celled sarcoma, especially of bony origin, seldom yields good results; the spindle-celled variety gives by far the best results. In eight out of fifteen cases treated the tumor entirely disappeared, and all of the remainder showed marked improvement. * * * The results in carcinoma have been generally unsatisfactory." I shall return to this subject when taking up viper and insect poisons.

But sarcoma is not the only malady where the toxin of erysipelas has been helpful, for several other extremely obstinate affections have yielded to its benign influence. An extensive knowledge of its value has been seriously interfered with by antiseptic surgery which forbids the entrance of erysipelas into wounds as of old. Had the older physicians and surgeons been as watchful for such results we might have a long list of the therapeutic action of certain diseases.

Dr. S. Henry Dessau had in his hospital service, many years ago, a case of chronic *arthritis*. Gangrene necessitated amputation of a toe; erysipelas supervened. Upon recovery from the effects of the operation and erysipelas the rigid knees improved rapidly and the patient was delighted to find that he could walk with ease. The records of its cures in chronic arthritis have been frequent enough to justify a belief that erysipelas will in the future be considered and applied in apparently incurable cases. I certainly would not hesitate to inoculate myself with erysipelas if permanently crippled by arthritis.

In locomotor ataxia there is record of rapid and positive cure after an attack of erysipelas. As some of these cases are supposed to be of specific origin it has been suggested to consider erysipelas in treating some serious forms of syphilis.

The possible curative value of *hospital gangrene*, and several similar diseases, in carcinoma, will be referred to later. Also other antagonistic diseases which have but slight verification.

When we are able to discover a clue, and look intently for such antagonistic diseases, we will be amazed that their principle of action had remained so long hidden. Scarlet fever and small-pox have appeared simultaneously in the same individual, without either being apparently modified; but scarlet fever and measles, when present simultaneously, it is asserted that both are markedly diminished in virulence. There are doubtless many such opposing and neutralizing forces in diseases which bear no visible likeness to each other, which the future may reveal. A consideration of a possible means of discovering and also producing antagonisms I am obliged to defer to a later paper.

For some time a distinguished scientist has been making a series of delicate investigations, as to the action of minute amounts of various drugs upon the lower orders of animal life, which promise to be interesting and instructive; but not being completed they cannot now be given. These experiments may determine some valuable therapeutic ideas. I do not doubt but that the three laws here mentioned will occupy a high place in future therapy.

If physicians are true to themselves, to each other, and to their noble profession our medical future will be an assured blessing.

The old and ever-seaworthy ship of medicine, covered with barnacles, drifting for ages upon the high seas, often with no other chart, compass or rudder than pure empiricism, has bravely withstood the tempests of centuries. Equipped with true laws of therapy for rudder, chart and compass, and manned by just and willing minds, then, with the barnacles of prejudice, professional jealousy and ignorance scraped from her hull, she will smoothly glide over fairer seas than she ever sailed before.

The next paper will treat of the probable future of general therapeutics.

SOME PHYSIOLOGICAL POINTS ON THE SYMPATHETIC NERVOUS SYSTEM, WITH PRACTICAL SUGGESTIONS.*

By Louis S. Joy, M.D., Marshall, Mich.

AMONG the most interesting subjects in the medical field to-day are to my mind those theories which cluster around, as a central figure, the sympathetic nervous system. While there is much that is shrouded in mystery, the dawn is beginning to break and we may yet in our time see face to face instead of "through a glass darkly."

It is not my purpose to go into the details of the anatomy of the nervous system, except in a very general way, but to call to mind some of the phenomena and physiological principles which are only explicable through the theories which have a direct bearing on this nervous system.

First, where and what is the sympathetic nervous system? The sympathetic nervous system consists of two cords on either side of the spinal column, with connections through ganglia with both anterior and posterior roots of the spinal cords, and also with the cranial nerves. Small fibres of this system here and there connected by plexuses extend to the walls of the arteries, the intestines and to the glandular organs. Fibres from the cervical ganglia and sometimes from the first thoracic, uniting with branches of the pneumogastric, form an intricate plexus around the base of the heart. Fibres are also found in the heart muscles. The splanchnics derived from various thoracic ganglia pass through the diaphragm and join the largest plexus of the system, the solar plexus or abdominal brain. Branches from this extend to vessels of the abdominal viscera. One of these plexuses is between the muscular layers of the intestines and stomach called the plexus mesentericus externus. This plexus probably controls peristalsis. The solar plexus contains gray matter similar to that in the brain. Plexuses of the sympathetic system are very numerous in the genito-urinary system and the rectum.

* Read before the Calhoun County Medical Association, March, 1897.

With this brief and imperfect outline of its anatomy, let us proceed to some physiological facts which have been demonstrated to be brought about or influenced by this branch of the nervous system.

First, what relation do the sympathetic nerves bear to the blood vessels? It has been demonstrated that when a sympathetic nerve is cut the blood vessels to which it gives tone dilate, and when the peripheral end is stimulated the vessels contract. It is this system which contains the vaso-dilator and vaso-constrictor nerves. Hence, any power that regulates the calibre of the blood vessels must have a great influence upon the nutrition of those organs or tissues to which the blood vessels supply nutriment. The blush which is so pleasing in the fair sex when embarrassed is but the stimulation of the vaso-motor nerves of the sympathetic system by the more kingly cerebro-spinal system.

As to the relation between the cerebro-spinal and the sympathetic nervous systems, it is well stated in an excellent paper by Dr. Wm. L. Metcalf, of Detroit, from which you will permit me to quote.

"In man the cerebro-spinal system has to do with the procuring of food, but the sympathetic takes care of it after it enters the œsophagus. Afferent sympathetic fibres convey from the different tissues to the sympathetic centres intelligence of their condition; the efferent fibres control the calibre of their blood vessels, and therefore of their nutrition."

Again, when the cerebro-spinal system is taking its rest in sleep it is the ever-wakeful and alert sympathetic system which telegraphs to the respiratory centre in the medulla that more oxygen is needed in the blood, and so the muscles of respiration are urged on to do their work and life is sustained. This is true also of the heart, for the tireless cardiac ganglia keep the heart pumping the life fluid through our arteries; indeed, even after the heart is removed from the body these same ganglia try to do their duty, and so we have the phenomenon of the heart beating some minutes after it is removed from the body.

Again, when a woman's time is up and the day arrives for her deliverance, it is the sympathetic system governing her uterus that gives her warning and tells her by the pains of the contraction of her uterus that it is time for her to send for her family physician. Nor will this system give up its work in spite of her cries to be relieved until another soul is born into the world to bless mankind.

Furthermore, it is the sympathetic nervous system which governs the action of the bowels and bladder. Younger practitioners are sometimes unpleasantly reminded of this when they have a difficult case in hand, and they have an almost uncontrollable desire to seek the water-closet; and its action on the sweat glands is also noticeable as the perspiration stands out on their foreheads.

A little over a year ago there was a severe accident upon the Michigan Central Railroad, at Marshall, at which time the great "Mogul" engine, drawing the North Shore Limited train, jumped the track, and after turning at right angles to the track, turned over, and firmly pinioned the engineer beneath its huge structure. The engineer was in a constant pitch of nervous excitement lest by the settling of the engine or a bursting of a steam pipe he be doomed to a horrible death. After three hours of hard work he was rescued from his perilous position apparently unharmed except for a fractured hip. He never lost consciousness and was apparently doing well for several days when there was a sudden rise in temperature and total suppression of urine, and the man died in a short time, as I believe, from the effects of shock to the sympathetic nervous system by reflex action from the cerebro-spinal system upon the inhibitory fibres of the nerves of secretion.

The story of the deserter, who was ordered shot and the officer in charge of the execution having ordered blank cartridges to be used, the man dropped dead, though unharmed, is familiar to you, but it shows the influence of nervous shock upon the sympathetic nervous system by reflex action through its inhibitory fibres. This same effect has been observed by a blow upon the abdomen over the solar plexus by reflexly inhibiting the heart, and it is the physiological principle upon which we order blisters which rest on reflex action by which a nervous impulse is transmitted by afferent nerves to a nerve centre, which when so stimulated sends out an impulse through efferent nerves to the parts diseased.

This principle probably explains why electricity does good in muscular atrophy and allied conditions, for by reflex action, sending nerve impulses to nerve centres, and then their returning by efferent nerves to the blood vessels by vaso-motor and trophic nerves, we have hypertrophy of the tissues. On the same principle we also apply hot or cold to a woman's abdomen, when there is a post-partum hemorrhage, and thus cause contraction of her uterus and stoppage of the hemorrhage. We also find that the stimulation given to the sympathetic by the forcible dilation of the internal anal sphincter causes dilatation of the pupils and deepened respirations. A more or less prominent rectal specialist told me once that he never had the least concern in giving chloroform to a patient, even when suffering from cardiac or pneumonic disease, as he felt that in his rectal speculum he had a perfect ever-fitting key to the situation. It may be that it is owing to this reflex action that there is never any danger in giving chloroform to a woman in labor.

Let me now briefly enumerate some of the physiological points brought out in the paper so far. The sympathetic nervous system governs the calibre of the blood vessels, governs nutrition, governs organs of secretion, governs the iris, heart, respiration, peristalsis; indeed, governs life itself. Now, it is evident that any means by which we can act upon a system of nerves having so much under its control must be of vast importance to mankind.

A system of surgery is founded on this very

principle. Those who practice it call themselves orificial surgeons. As far as my observation goes, they confine themselves almost entirely to the anal orifice, and are sometimes styled rectal surgeons. They do this because the sympathetic nerve fibres are very profusely distributed to this particular region, and it is a region easily accessible. I am not going into the details of their theories (for there is not time in a paper of this nature) except to say that they consider the sympathetic system the power behind the throne, and by stimulating the power they reflexly influence the diseased part. That they accomplish good in many cases which they undertake is evident from their monthly visits to the same cities year after year and their continued supply of patients, with some of whom I am personally acquainted. To be sure, the patients they usually get are old chronic cases whom we perhaps have attempted to help, but have failed, and they have drifted from one doctor to another until they have reached the orificial surgeon, and to their advantage, too, for not infrequently they give them relief which we have failed to do.

Aside from local troubles at the orifices, which we all recognize and treat, what are some of the remote diseases which the orificial surgeons claim to cure? They are insanity, nervous prostration, nervous dyspepsia, locomotor ataxia, uterine trouble, neuralgia, constipation and diarrhœa, asthma, hay fever, anæmia, kidney and bladder troubles, lumbago and muscular rheumatism. This list of diseases is taken from a pamphlet written by one of the so-called orificial surgeons. I know it is a common thing for specialists to think that they see all disease through their speciality, and it may be so with the orificial surgeons, but we know that many an occulist has cured cases of asthma, epilepsy and other nervous diseases by simply correcting errors of refraction, and he has sometimes been the first to discover that insidious disease—chronic nephritis—by his ophthalmoscope. The cause underlying the success of the orficial surgeon is undoubtedly the fact that he stimulates the sympathetic nervous system, which, sending out impulses through its vaso-motor and trophic nerves by increased nutrition and blood supply, bring about such a change that the patient is relieved of his distress. I do not, of course, mean to say that they can always cure or relieve all the diseases which they have claimed, but I do believe that they do accomplish much good, and that facts will bear me out in the statement. Going out of the physical to the psychical we have Christian Science and hypnotism as closely allied forces to the sympathetic nervous system.

Who of us dare say just what limit we must put upon the possibilities of Christian Science or suggestion? I personally know one of these Christian Scientists, the wife of one of Marshall's most prominent attorneys at law. As his office is near mine, his wife came across the hall to visit me one day. I had just been using my trial set of lenses for testing eyes. She remarked that she had good eyesight, and that her eyesight was better now than a few years ago. That whereas she used glasses a few years ago, now she could do without them. I gave her my card of near-test type, and found she could read No. 1 Jaeger's test type at anywhere from five to ten inches from her eyes. The thought immediately came to my mind she must be myopic, and so I tested her distant vision and found she could nearly read all of the 20/15 type. This certainly is unusual vision for a person of fifty-five years of age, and one who is accustomed to use her eyes a great deal, who is decidedly intellectual and a great student. How did she accomplish this improvement in her vision? Dare we say that it was not suggestion? How does suggestion work? May it not be that concentrated thought working through the cerebro-spinal system reflexly stimulates the sympathetic fibres going to the eye?

We know that grief depresses and that joy stimulates the secretions through the sympathetic system; may not concentrated thought influence it also? At any rate, we have a cause and an effect, and I have yet to hear any other explanation of that cause than the one I have given. Can we tell where the power of Christian Science ends? Certainly it has succeeded in some cases when drugs have failed, and where doctors have given up in despair. We cannot limit its effects until we know how to judge to what extent the sympathetic can be acted upon by suggestion, and what the limit is which the sympathetic has over nutrition and the rebuilding or repairing of tissue.

Closely allied to Christian Science is hypnotism. Hypnotism is a condition of sleep in which the mind is capable of receiving impressions from without, but not of reasoning itself. Here also suggestion is the main force at work. The mind is a blank until some suggestion from without is put into it, when that idea alone remains until changed again from without. Some teach that the cerebro-spinal system is asleep and that the person is worked upon entirely through the sympathetic system of nerves. It may be that the absence of the insulation of the white substance of Schwann makes it easier to be acted upon than the other system of nerves.

A certain hypnotist who visited Marshall and Battle Creek caused the pupils of the eyes of one of his subjects to dilate even under a bright gas light by suggesting to him, when under hypnosis, that he was getting blind. He put a needle through the lips and ears of several of his subjects and strung them together without causing any pain or the flowing of blood. He also made several of us doctors in Marshall, and I learn some in Battle Creek, believe that he made the pulse of a subject in one wrist ten or more beats faster than in the other wrist. He either did this or hypnotized us. If he did it, is it not possible that its explanation rests in the vaso-motor nerves of the sympathetic nervous system. May they not have caused the radial artery on one side to become rigid and thus have made occasional skips in a beat? I admit that the fact seems impossible, yet I felt sure of the count of the pulse on my side of the hypnotized subject, and the other doctors felt equally certain. If hypnotism is a fact, and I

think few will deny it, is there not great possibilities for its use in the medical profession?

The object of this paper has been to bring forth three things for the consideration of medical men. All three of them are at present largely in the hands of quacks or of ignorant persons, who have never studied the science of medicine to any extent. They should be useful instruments to our success as medical practitioners. The three I refer to are orificial surgery, Christian Science and hypnotism.

A professor in one of our medical colleges recognizes this, and says in an article (from which please permit me to make a quotation): "The success of homœopathists shows that men may practice on an exclusively suggestive system, while the scarcity of purely limited homœopathists shows that suggestion has its limitations. There comes a time to every one of us, if we live long enough, when we realize how much of our success has been due to ourselves and not to our medicine. Now, it seems to me, that we are taking exactly the right view of this matter. Instead of telling our students that suggestive therapy is a good thing in a general way, that we should always try to make our patients believe we are helping them, etc., etc., and then sending the poor fellows out to be driven into the poorhouse by the success of the Christian Scientists, faith-curists, bone setters, and every advertising blatherskite who has a big enough gall and little enough conscience to succeed, we have created a lectureship on psychotheraphy and propose to make our graduates more proficient in all these isms than their professional exponents themselves. Any success that these people can honestly claim may be better attained by our pupils, who will know all these men do and have a sound scientific training besides."

In conclusion, let me urge that we do not neglect these three forces in our armamentarium, for if we do we may have in some case a mortifying failure where some quack may have a triumphant success.

HEREDITY VS. REINCARNATION.*

By D. A. Gorton, M.D., Brooklyn, N. Y.

On so vital and important a subject as the propagation and development of the human species, it is incumbent on us to be practical and not to be drawn away by fictions or the purely hypothetical. All know that a sound body and a sound mind, pure living and right thinking, the study and practice of virtue, turning away from the groveling and the self-seeking and living for the interest and welfare of our fellow men, in conjunction with marital fitness, afford a condition of paternity and maternity from which a noble progeny may reasonably be expected. And it is not less certain that debasing and depressing causes, such as extreme poverty, want, the groveling vices, gluttony, intemperance, debauchery, wasting habits, self-indulgence and other malevolent causes which have the effect to impair or exhaust the vital powers and lower the tone of the physique, and thus to sink individuals in the scale of being, unfit them properly to perform the sacred functions of paternity. The progeny of such parental conditions are lower in the scale of being, as a rule, than the parents. They are apt to be diseased and deformed, simple-minded, vicious, foolish or idiotic, demented or insane and finally become a curse and a burden to the State. If such dire results be attributable to the law of Karma, I should make no objection—I know they are inevitable and legitimate—but God forbid that I should admit that they are just Such beings are victims of abnormal paternity which it is incumbent on society to correct. They are sinned against more than sinning, and appeal most pathetically to the sympathy and commiseration of those who have been fortunate enough to escape the perils of a genesis so irrational and forbidding.

I am not insensible of the difficulties that environ a solution of the problems presented in the evolution of man. We are constructed of a few simple organic molecules by an agency invisible, incrutable and all powerful. While we can see only by aided eyes the process, the rapid formation and multiplication of cells, we are left in a maze of mystery from which there seems to be no exit, or of which there seems to be no solution. While I hold with a majority of the medical profession to the hypothesis of heredity to account for transmitted traits or qualities, I freely admit that there are many facts in the genesis of the race—a few of which have been ably presented by our esteemed Fellow, Mr. Alden—that offer a reasonable basis of doubt as to the unqualified, all-embracing truth of the hypothesis of heredity. I maintain, however, that those facts do not fully justify the acceptance of the hypothesis brought forward by the adepts of Theosophy, namely, Reincarnation; and that, it would be impolitic and unwise of us to accept that hypothesis without more evidence than existing data afford. To me heredity, with the doctrine of Pangenesis, of Darwin, affords a more plausible explanation of the facts than the doctrine of Reincarnation.

Says the learned Prof. Weismann: "If, as I believe, the substance of the germ-cells, the germ-plasm, has remained in perpetual continuity from the first origin of life, and if the germ-plasm and the substance of the body, the somato-plasm, have always occupied different spheres, and if changes in the latter only arrive when they have been preceded by corresponding changes in the former, these increasing up to a certain point, we may understand the principle of heredity; or, at any rate, we can conceive that the human mind may at some time be capable of understanding it. We may at least maintain that it has been rendered intelligibly, for we can thus trace heredity back to growth; we can thus look upon reproduction as an overgrowth of the individual, and can thus distinguish between a succession of species and a succession of individuals, because in the latter succession the germ-plasm remains similar, while in the succession of the

*Address before the Theosophical Society (Branch), Brooklyn, May 6, 1897, by D. A. Gorton, M.D.

former it becomes different."—*Essays on Heredity, etc.*, p. 104, vol I.

Nothing is more certainly true than that the individual is a representation of what has been before; that the traits he possesses, both physical and psychical, rest on legitimate antecedents. It is as if his brain was run in a mold, made for him by the laws of evolution. According to this view his fate is fixed at the beginning, and he fulfils a destiny which was conceived for him and not by him. This fact is easily substantiated for the most of individuals. But now and then a man grows to maturity with qualities which apparently do not rest on legitimate antecedents, which are an exception to those of his immediate ancestry. He may be a man of genius in physics, of obscure origin, like a Faraday or a Hunter; or a man of equally low origin, possessed of adept powers like a Jesus or a Moses. In such cases one's hereditary philosophy receives a shock, and one begins to wonder if there is not a problem involved in such phenomena which science has not yet solved, or the solution of which may be beyond the scope of science or philosophy.

But let us not be in haste to turn altogether away from the philosophy of the West and to embrace so radical or revolutionary a conclusion as that involved in the doctrine of Reincarnation. "It is always dangerous," says Prof. Weismann, whose studies on this subject have taken high rank in the intellectual world, "to invoke some entirely new force in order to understand phenomena which cannot be readily explained by forces which are already known."—*Essays Upon Heredity and Kindred Biological Subjects*, Vol I., p. 78.

The human body comprehends all the principles of being. Philosophically, it is a unit; I insist that the body is the objective, the visible, of that which is subjective and invisible. It seems to me idle to parley over the questions of materialism and spiritism, for each comprehends the other and both are incomprehensible by senses finite. Are not the physicists and the theosophists agreed as to this doctrine? I think they are in the main. Prof. Crooks, of England, the most subtle and versatile of living chemists, declares that it is "impossible to conceive of matter without energy, or of energy without matter. From one point of view," he says, "both are convertible terms."—*Address before the British Association, 1887.*

The inspired author of the *Secret Doctrine* holds vigorously and persistently to the same idea. "Pradhana, unmodified matter—that which is the first form of Prakriti, or material, visible, as well as invisible nature—and Purusha, spirit, are eternally one. . . . The atom, as known to modern science, is inseparable from Purusha, which is spirit, but is now called 'energy' in science."—*Secret Doctrine*, vol. I, p. 640.

And again, that inspired writer says: "Every elemental atom, in search of which more than one chemist has followed the path indicated by the alchemists," is in the belief of occulists, "a soul; not necessarily a disembodied soul, but a Jiva, as the Hindus call it, a center of potential vitality with latent intelligence in it, and in the case of compound souls an intelligent active existence, from the highest to the lowest order, a form composed of more or less differentiations."—*Ibid.*

This idea has been my own for a period long antedating my reading of H. P. B.'s writings. And when one speaks of the physical, in heredity, only as being transmissible, it has to my mind neither force nor meaning, for the physical carries with it always its prototype, spirit, or soul.

"We must not permit ourselves," says Mr. Galton, "to consider each human or other personality as something supernaturally added to the stock of nature, but rather as a segregation of what already existed under a new shape, and as a regular consequence of previous conditions. Neither must we be misled by the word 'individuality,' because it appears * * * that our peculiarities are not so independent as our self-consciousness leads us to believe. We may look upon each individual as something not wholly detached from its parent source—as a wave that has been lifted and shaped by normal conditions in an unknown and illimitable ocean. There is decidedly a solidarity as well as a separateness in all human, and probably all, lives whatsoever, and this consideration goes far, as I think, to establish an opinion that the constitution of the living universe is a pure theism, and that its form of activity is what may be described as co-operative. It points to the conclusion that all life is single in its essence, but varies, ever-varying and interactive in its manifestations, and that man and all other living animals are active workers and sharers in a vastly more extended system of cosmic action than any of ourselves, much less of them can possibly comprehend."—*Hereditary Genius*, p. 376.

Thus it is that not only our bodies but our minds have been shaped for us, and our peculiarities fixed, by countless of those who have preceded us and passed on. It is not that we necessarily inherit from our immediate parents our tendencies to vice and virtue or other qualities, as the case may be, but rather that it is from our line of ancestry, as the studies of Galton go to show. The people of Galilee marveled at the powers exhibited by Jesus. "Is He not the Son of Mary and Joseph?" they asked. But their amazement abated when they found that He was from the line of one of the most illustrious men of the past. Mad men—divinely mad, I presume—called Him the Son of David. And so He may have been.

We not only think over again therefore the thoughts of our ancestors, but we are swayed by what they felt, and trammeled by the modes of thought which they impressed on our flaccid germ-cells; nor can the individual originate a new method of practice or system of philosophy any more than he can add to his stature, change the shape of his body, or alter the cut of his profile. It is only our ignorance and conceit that impels us to claim for ourselves the power to do any of these and other similar things. The Theosophist admits this, but insists that it is due to the law of Karma. It is in accordance with the order of

organic nature and causation, call it by whatsoever term one may.

The limitations set by the Theosophists as to the laws of heredity are bounded by the physical. There seems to be no question as to the genesis of physical qualities, but the psychic or spiritual characteristics they allege have a different and altogether supernatural origin, using the term supernatural in its ordinary sense or signification. It is acquired qualities that are not transmissible. This I understand to be the position taken by Prof. Weismann, and he is right. It is hardly tenable to say that physical gifts are transmissible while psychical ones are not. I don't believe with Darwin and Spencer that experiences are transmissible, except as such experiences are posited in form and substance. It is morally certain that like begets like, but only as likeness is registered in organization can it be inherited. Parents transmit possibilities to their progeny by impressing their individualities on the germ-cells, not their own personal accomplishments. The organs of speech, for example, are inherited, but it would be absurd to assert that speech was inherited. The child has to learn how to speak—to use the vocal organs. So, also, it is with locomotion; the organs are a free gift from nature, through the germ being, but the new formed being has to learn how to use them. All know what a tedious task it is for a child to learn to walk. The same is true with our mental powers; they are developed by slow process, by practice. The individual inherits brains—sometimes—or centers of thought substance, but knowledge he must acquire and talent develop by diligent application. It is possibilities or predispositions, psychical and physical, therefore, that are inherited and not experiences.

I do not think that the idea that man is a double being, or that he has a dual organization, is well founded. He may be constituted of seven principles and possessed of a soul as well as a body, but he is physical and psychical, body and soul, in one. I insist that the individual is a unit; that he is one, indivisible and inseparable on this plane, and not dual or multiple, except ideally, as the great majority of scientists and others maintain. If this monistic conception of man's nature were exclusively my own, I should put it forward all the same, as the result of my studies, but with less diffidence than I now do, since it originated with Aristotle and has been held by many distinguished thinkers since his day. No man in ancient or modern times has stated this doctrine more clearly perhaps than the immortal Milton. He distinctly affirmed with a profundity of verbiage peculiar to him, "That man is a living being, intrinsically and properly one and individual, not compound and separable, not, according to the common opinion, made up and framed of two distinct and different natures, as of soul and body—but the whole man is soul, and the soul, man; that is to say, a body, or substance, individual, animated, sensitive and rational."—*Discourse on Christian Doctrine.* Prose Works, Vol. V., p. 188.

This view of a man's constitution is in the line of development of modern philosophy, psychological and physiological. According to it forces and substances are substantially one and inseparable; that for every faculty or attribute of mind there is a so-called physical substratum in substance on which it is predicated, and apart from which it could have no existence. The whole kingdom of organic nature is constructed in accordance with this view, and that of man, the highest and most perfect of such kingdoms, is no exception to it. Indeed, he is the highest and most perfect exemplification and demonstration of it.

It is true that one may picture to himself or conceive the existence of a twofold nature in man. But it should be borne in mind that one can do so only by taking the verdict of his senses—his five senses—and ignoring the evidence of the sixth and seventh senses—perception and understanding—altogether, or by giving himself over to illusion. But only when it is discovered that one can think without brains, talk without a spinal nerve-centre, see without the agency of the corpora-quadrigemina, walk independently of motor-nerve centres, or reason without the medullary gray substance, shall we be at liberty thus to separate function from structure, or a mental concept from its material substratum and correlative in the brain.

The idea so interestingly set forth by our excellent Fellow, that we inherit somatic traits, and not mental, is untenable, and must be given up if there is any truth in science, or validity in logic.

But, say those who take the counter view, many of the facts of human life and its development are against the view herein set forth. That may be. One is often unable to account for the irruption of a genius without antecedents, like a Blind Tom, a Zerah, Colburn, a Mozart or an Edison, but may it not be due to our limited powers of observation and understanding, rather than a disproof of heredity? If genius and other exceptional mental qualities were non-transmissible, so ought likewise mental defects to be non-transmissible. But nothing is more susceptible of proof than the transmission of mental defects and disorders. The records of epileptic colonies, hospitals, poorhouses and institutions for the mentally infirm afford abundant proof of the supremacy of heredity as a fruitful cause in these directions. According to some instructive studies of idiocy in Massachusetts, made a few years since by Dr. Samuel G. Howe, of Boston, who for many years was director of the Perkins Institute for the Education of the Blind, a large majority of idiots in that State had insane and idiotic inheritance. "Fifty idiots were discôved whose parents were, one or both, idiotic or insane." Among seventy families, forty-five had each two idiotic children; thirteen had three each; eight had five each; one family had six idiots; another had seven idiots; another had nine, and yet another had eleven idiots. The same report observes that some of the children of families tainted with idiocy received a predisposition to the weakness from their parents, and carried it with them through life; "but very careful management and judicious education averted all

exciting causes, and these persons passed respectably through the world; yet they may transmit their hereditary taint to their children."—See *American Journal of the Medical Sciences*, April, 1849.

The testimony of alienists, neurologists and superintendents of insane hospitals in all Christian countries is to the same effect, namely, that a large class of the insane have an insane history, or antecedents, and that the most influential cause of insanity is hereditary predisposition. Among 264 cases of insanity reported by M. Esquirol, at Paris, France, he assigned 152 of them to heredity. This was in his private practice. Dr. Burrows, a contemporary of M. Esquirol, declared that six-sevenths of his own insane cases were due to hereditary predisposition. Out of fifty-seven cases of puerperal mania he could trace a hereditary taint in about one-half. The observations of MM. Falret and Georget, and others of the same period, are to the same effect. The reports of Jacobi, Bergman, Hagen, Fleming, Guislain, and others of the first half century give less prominence to heredity in the causation of insanity. But the more careful observations on this subject of modern writers and specialists fully confirm the statistics of Esquirol. When we have a case of insanity, or an allied malady, under examination, the first object of inquiry is as to hereditary antecedents. The same is true likewise of every judicious physician in the investigation of all chronic maladies of the lower physique, such as gout and rheumatism, cancer, pumonary consumption, etc. Heredity is an element of prognosis which must be taken into account.

Again it is urged that if mental qualities are transmissible, why are children of highly cultured and intelligent parents so often inferior to their parents? I think this objection to heredity may be easily answered. The farther removed is man from the animal or physical plane, the weaker are his powers of procreation. Such persons live in the sphere of the æsthetic and the beautiful, quite removed from the enjoyments incident to the purely physical plane of being. Conjugal love in such a union is more a sentiment than a passion. The energies of the parties to it centralize more in the brain and nervous system and are spent on the plane of the æsthetic, or so used up in projects of ambition, or in labors of love and duty to their fellow men, as to enfeeble the physical powers, and especially the generative function, thus unfitting them properly to endow their progeny. It would be unreasonable to expect a well-endowed progeny from such sources, and accordingly it is seldom to be observed.

Too little is known of the laws of parentage to justify one in dogmatizing on that subject to any great extent. It is my firm conviction, however, a conviction based on professional observation, which I have made bold to declare on many occasions, that the conditions indispensable to the endowment of progeny consist in mating individuals conformable to the laws of affinity, by which I mean the adjustment of natures, of tastes and temperaments; in brief, of physical and psychical qualities, in such a way that each may find in the other the other's counterpart and liking, and be able to respond to each other's needs. Such a relation as this implies, which unfortunately, is altogether too rare, constitutes the ideal union, founded upon love and companionship, of which it is said, "They shall be of one flesh." The fruits of such a union, whether the parties to it be on a high plane or low, rich or poor, titled or untitled—and it is more often found among the lowly, unselfish and unambitious—are not unfrequently of such a character as to justify the idea that they were conceived by the Holy Ghost. And so they may have been, not in any vague, unreal, fictitious sense, but in very deed; for what is the Holy Ghost, but excellent Spirit, the Spirit of Love? The progeny of a union thus conditioned are more truly divine than the average. Well may the angels and adepts of heaven rejoice over their birth. In them the divine is incarnated, and there can be for them no necessity to be born again—for a reincarnation. On the other hand, by a parity of reasoning, the mentally maimed, the selfish, self-seeking, stunted, dwarfed, blind and vicious, are the legitimate fruits of ill-assorted, uncongenial wedlock. These may be greatly inferior to their parents. While this accords with my premise, I do not make the statement on *à priori* grounds. It is amply supported by the studies and observations of physicians and thinkers of every civilized country.

The abnormal traits of parents are repeated in their offspring, and in an aggravated form when each parent has the same mental infirmity. Our pagan forefathers and mothers were fully conversant with this fact, more especially those of Sparta, and took sedulous care to guard society and the state against the evil by teaching their youth correct marital principles and fostering conjugal unions in accordance with those principles. They took good care that only such as were compatible with each other and were free from mental and somatic or bodily defects, drawn together by mutual sympathy and love, uninfluenced by mercenary motives, or what the modern world would regard as a "good catch," should assume or enter upon the holy relation—made holy only by a holy love—of husband and wife. I need not say that the end justified the means, and the wisdom of their great lawgiver. The result was the development of the Spartan character, world-renowned for its sturdy virtues, and of a people less self-seeking, more hardy and heroic, freer from vice, disease and deformities, and possessed of more civic virtue than any the world has seen. Is not the credit of so grand a result justly to be attributed to obedience to the higher laws of heredity rather than to the hypothesis of reincarnation? I think it is.

I am aware that the logic of the hereditary genesis of man leads directly to the doctrine of pangenesis, and limits the beginning of his existence to that of the germ. But one ought to have the courage of his convictions and not be deterred from accepting conclusions that are supported by sufficient evidence, however opposed or unpleasant they may be to one's predilections. I believe

in a Divine Beneficence and in the life eternal, but I don't profess to know the secrets of one or to be able to solve the mystery of the other. It is quite obvious that the existence of every individual comes to an end on this plane, and that life in the Beyond must be on a plane and under conditions and circumstances so different from this one as to be quite out of reach of the present scope and development of our faculties. No one can claim to have solved the mystery of the genesis of life and being, and the connection of soul and body on this plane—at least no one in the Western world. The mystery is too profound, the problem too deep to be fathomed by our unexpanded perceptions. Let us stand by our logic and hold fast to the verified truths which we possess, assured that light will come to us on the mystery of a future life when we shall grow in wisdom and knowledge sufficient to comprehend it.

THE EFFECT OF THE ETHER VIBRATIONS UPON THE RETINA.

By James A. Carmichael, M. D., New York.

IN pursuance of the idea ventured in the April issue of this journal as to the possibility of finding some solution of the "vis insita," the hidden force, as yet unknown, whereby nervous matter dispenses and maintains life wherever animal life exists, it will be remembered that as "the drowning man catches at a straw" when life is ebbing, so I reach out to the intangible, imponderable and invisible rays of the incorporeate "ether," in which all life exists and which equally interpenetrates all inanimate things, and invoke its aid in leading me and showing me where life begins, and helping me know how and why it goes on until dissolution and decay leave all that remains to somatic nothingness and death. When I read again these words taken from my preceding paper: "The daring venture to apply this wondrous 'ether' to nervous matter, to the operations of the brain, to mentality, thought, the intercommunication of brain with brain, nerve energy, individual and combined, the the senses of vision, condition, etc.," I say, when I read over these words, I wonder at my own audacity.

When the man of cultured mind stands before and gazes into the eyes of the Egyptian Sphinx, the "Alboohol, or Father of Terror," in the Arabic tongue, which, though blank and inpenetrable, yet have looked across the dessert and the plains of Egypt since the memory of man, and have watched the changes in the heavens, and the shifting of the sands, he notes the contracted brow that speaks of abstract thought coming and going in the centuries, and he knows that those eyes and that brow can never reveal what has sounded their depths, yet to him their eternal silence is eloquent and oracular, though it be there's naught but silence. The same "ether" that enfolds us to-day then illuminated the eye and mind of the idolatrous Egyptian, and informed and inspired the responsive fingers that planted the Sphinx in the arid desert. Though following the inspiration instinctive in his soul, he made the winged globe the emblem of his immortality, and bent the knee to his Iris and his Osiris, and found in the humble scarabœus his propitiative intermediary with his God, yet he reared the Pyramids, those stupendous and monumental sarcophagi and mausolea in which repose the ashes of his dead kings, his Pharaoh, his Ptolemy, his Rhameses, that still challenge the wonder of the world, and put to shame all and every architectural device and design conceived and executed by man down along the current of time since prehistoric life!

It has been left to the nineteenth century to unfold the mystery of the world-girdling ether, and would that to me were revealed the God-given power to illuminate with it the leaves of our book of life, and to hold up into vivid light all of its secret operations in this our "tabernacle of flesh," that to our finite intelligence are ever the one paramount object and subject of endless investigation and research. In casting about to determine what portion of the organism presents the greatest and best introitive facilities for the reception and absorption of the ether rays, the visual sense seems especially prominent and appropriate because, in the first place, the influences and effects of light have to be considered, and in the second, these can be more readily appreciated and their operations more speedily and visibly seen and estimated through the sense of vision than in any other part of the body, and moreover because through the eye we can hope the more immediately to reach the brain and begin the stupendous work before us, the effort to unravel its manifold mysteries, and the secrets of its operations. Again, another reason for this selection is the authority that has been given to us by the evidences shown through the experiments and deductions therefrom of Marconi and Bose respecting the transmission of ether rays, their velocity, and the effects produced by their vibratory impulses. It is apposite here, nay, it is essential for the prosecution of my purpose, to repeat what I have already quoted from the investigations of the above-named authorities respecting the velocity, transmissibility and the oscillatory and other wonderful properties of ether rays, as by these properties and their effects upon the material organs of vision we may hope to reach some solution, however imperfect, of this marvelous faculty of ours which we call sight, and of which we think so little.

According to Dr. Bose, "the ether vibrations which lie between 200 billions and 400 billions of vibrations in a second, are heat rays and produce the sensation of warmth. Above 400 billions, and as far as 800, they are light rays, with the sensation of light. According to their rapidity, these light rays produce a gradation of colors. The lowest number of light vibrations give to our eyes the sensatiou of red, and the scale mounts through the yellows, greens, blues and violets. When the number of vibrations passes 800 trillions per second, they become invisible." Now these facts, and we must accept them as such, are

all that is necessary for our present purpose, and to enable the construction of a foundation for a superstructure embodying a theory, argument, speculation or hesitating affirmation, whichever you like, of the nature of the agencies whereby we see. Our next step must take us into the eye, to watch the effects of the ether vibrations. Upon what? Of course, upon the only true, real and tangible instrument of vision, the retina. All the other material structures of the eye are but the receiving, modifying and conducting agents of light and ether vibrations to the retina, and therefore do not need present consideration, as I take it for granted my readers are thoroughly familiar with them.

Now this retina, we must look at it, and into it, closely too, and into its intimate structure, if we can hope to do anything, or learn anything about its operations under the influence of the ether and its vibrating forces. I do not propose to inflict upon my reader the very minute anatomy of the retina, he can get all that from the books, but enough of it to help us to investigate and study ether vibration and its effects upon this intensely sensitive nervous matter—substantia gelatinosa—of which it is composed. Those who have followed me in my recent investigations upon nervous matter, will remember the stress and the emphasis with which I signalized the individual fibrillar arrangement of the nerves of olfaction, audition and vision, and the individual effects of odors, sound and light upon the individual fibrillæ, each one receiving its own specific odor, sound and luminous ray, with which it is in specific affinity, and no other. Now, to turn again to the retina, the merest tyro in anatomy knows, or ought to know, of the fibrillar arrangement of the retina, of its various rows of cells, ganglionic and other, of their antennar connections, of its rods and cones, and its associations with the fibrilla of the optic nerves, so that from the apex of each retinal fibrilla to a corresponding fibrilla of the optic nerve, there is an unbroken continuity of intensely vital nervous matter, and every visual impression received from without is appropriated by its special and sympathetic retinal fibrilla, by its chromatic affinity, which we shall see by and bye, and is carried back by optic fibrillæ endowed with the same sympathies, and onward and backward and brainward, and there recorded in deepest cerebral recesses. Does man stop to think of the power that gives to him the beneficent light of day? Let the stricken eye answer, that is forever groping and longing for it, when all is dark and obscure, and which only eternity can relume. Does he cherish as he should the charm of familiar intercourse with his fellow man, not forgetting his fellow woman, too? Does he love bounteous Nature when she spreads before him all her endless variety of mountain, forest, hill, valley, river and stream, stretching its silvery length along far as the eye can reach, until the beauteous landscape is forever graven on the tablets of his brain, to be recalled when life declines, and "some days are dark and dreary," and only memory lights his path as he goes graveward? The next retinal fact, and this I shall designate as the intrinsic chromatic power or susceptibility—no, that is not a correct expression, because susceptibility indicates the necessity for an impression to be made upon the retina by some extrinsic force, whereas I propose to designate a power in the nervous matter itself by which it is made to be chromatic or possessing color; in other words, the individual chromatic or color power of each retinal fibrilla, resident within itself, and by which it responds to one color and one alone.

There are two proofs, if not more, to substantiate this opinion; one is a fact, familiar to all, *viz.*: That a blow upon the ball of the eye will flash coruscations of brilliant and variegated light across the field of vision, and the other is the fact, also well known, of color blindness, or an incapacity to appreciate one or the other color by certain persons, and always accompanied with a physical defect of one or the other retinal fibrillæ. These chromatic properties of the retina were taught by me years ago in my lectures upon anatomy in three of the medical colleges of New York, and hundreds of my pupils will recall the fact. Within the last two months I find a communication made to the French Academy of Sciences by one of its most distinguished members, upon the chromatic function of the retina, which I give in his own language and translate:

"Fonction chromatique de la rètine." Il resulte des experiences de M. Charpentier de Nancy que la rètine ne possede pas senlement la fonction photogenique simple, c'est-a-dire, celle qui consisté à voir les couleurs du spectre lorsq'on lès lui presente, maàs aussi à voir des couleurs qu'on ne lui presente pas lorsqu'on l'excite pendant un temps suffisant. Ainsi M. Charpentier a fait apparaitre a une personne dont il excitait la retine toutes lès couleurs du spectre, et cependant cette personne n'avait devant elle qu'une feuille de papier blanc."

It results from the experiments of M. Charpentier, of Nancy, that the retina possesses, not only a simple photogenic or light producing function, which consists in seeing the colors of the spectrum when presented to it, but also those that are not when excited for a sufficient length of time. M. Charpentier caused all the colors of the spectrum to appear to a person whose retina he excited, although there was nothing before the subject but a sheet of paper. Upon the same subject of cerebral excitation or the excitation of nervous matter. M. Marey made a report to the Academy which contained the following:

"Il se produit, peut-être daus le tissu nerveux un fusionnement des ondes avec périodes positives ou negatives, analogues aux ondes lumineuses on électriques." There is perhaps produced in the nervous structure a fusion of waves with positive or negative periods analogous to luminous or electric waves. In writing of the union of the retinal fibrillæ with optic nerve fibrillæ, I adverted to the unbroken continuity of intensely vital nervous matter, and that every visual impression received was conveyed thereby, each retinal fibre carrying its own specific chromatic freight, so to speak. Bear in mind that I

do not mean color as color, but the perception of color due to its own intrinsic chromatic power. From what we have learned from Marconi and Bose of ether vibrations, their velocity and the comparative effects of their increase upon the organs of vision, and that while one condition of the force of ether radiation will stimulate vision, a more exaggerated force will produce "invisible light rays," and we gather the idea that ether vibration is necessary to produce vision. *How does it produce vision?* Here is the real "questio vexata," the problem to be solved, if it can be reached by human intelligence.

PROCESSES OF ACTION OF ETHER VIBRATIONS ON NERVOUS MATTER.

First—Primary process consists of the effect of the impact of ether vibration on nervous matter, which effect is seen in the production and maintenance of the vigor of its functional activity, in greater or lesser degree, according to the force of the vibratory impact. This I venture to put forth as the first postulate toward the possible solution of the problem now before us.

Second—How does the effect of ether vibration in nervous matter manifest itself? Is it by the molecular agitation of its constituent elements, and, as a consequence, of the production of the phenomena of their functional vigor and activity?

Third—To consider the genesis of molecular agitation under the stimulus of ether vibration in its degrees of hypersthenic or hyposthenic activity.

As will be seen by the reader, these various conditions must necessarily be subject to modifications and transformations according to the portions of the body subjected to consideration.

Now, suppose we examine these three propositions which I have ventured to submit separately and individually, and first as to the effect of ether vibration on nervous matter generically, as respects the vigor of its functional activity. We are told by progressive science that all the world, and everything on it and in it, is penetrated and interpenetrated by this mysterious ether, so, suppose we give it a name and call it cosmic ether. Being so, we live and move in an atmosphere of cosmic ether, whose perpetual vibrations and oscillations constitute our vital impulses, and we are but the creatures of its active or passive influences. When those influences are active we are in a condition of exaltation, and our functional activities mount higher and higher, and *vice versa*. If this circumambient ether envelops our bodies, and their qualities, physical, mental and other; if it be within us and around and about us, why may we not reckon it among the attributes of that most mysterious of all elements which we call soul? The poet says, "Earth changes, but thy soul and God stand sure." If God made this cosmic and omnipresent ether, and gave it as one of the tutamina or safeguards and supporters of our bodies here, who shall say that a still more sublimated ether shall not receive us when we go hence, and inform us and enlarge us "with thoughts beyond the reaches of our souls?"

So, then, is my reader willing to agree with me that ether vibration is the great factor of the functional activities of our bodies and hypersthenic or hyposthenic in its influences according to its own intrinsic activity, or the intervention and obstruction of other elements that war against "Heaven's best treasures, peace and health, peace beyond all earthly dignities." The second proposition submitted suggests the consideration of the molecular agitation of nervous matter by ether vibration and, as a consequence, the production of the phenomena of functional vigor and activity. What does molecular agitation mean? What is a molecule? As we know, it means a little mass, a microscopic entity, and yet by whose aggregation and atomic union the heathen philosopher constructed a world and set it in motion.

The world of our bodies is the product of molecular infinitesimality, and we typify the cosmic genesis in its construction and completion. Now we reach the point of application of ether vibration as a factor of function to that portion of the body which I have already selected, the retina of the eye.

As its application is, as I believe, followed by the molecular agitation of nervous matter, then the intensely vital nervous matter of the retina feels the stimulus and agitation of its molecular structure, follows with all the phenomena which we call vision. Molecular agitation of the retina means then, the agitation of every infinitesimal particle of it, its rods and cones, its layers of cells and their antennæ; indeed, every minutest figment of it. What's the result? contraction? no; relaxation? no; hyperæsthesia? no; anæsthesia? no. What then? What but color, the evolution of the chromatic element in every molecule. The organ glows with the irradiation of iridescent and kaleidoscopic beauty, and the powers of "sense ache at" it all. But still I'm not satisfied, and I wrestle still with the "pourquoi," the why and wherefore each molecule of the retina gives out its color under ether vibration. Does the vibration cause molecular approximation, contact, adhesion, and, if so, does the great electric law of polarity obtain here? My reader must remember that I am trying to establish, or more humbly to suggest, a law which shall direct me hereafter, when I shall have gone along with the optic nerves and shall be deep in cerebral depths, and in the midst of their overwhelming and majestic mysteries. Now comes the consideration of my third proposition, *viz.*, molecular agitation, under the stimulus of ether vibration in its degrees of hypersthenic or hyposthenic activity. Progressive science, as represented by our learned Hindoo friend, Dr. Bose, informs us that when the velocity of transmission of ether vibration exceeds a certain number of trillions of miles per second, the result upon the eye is "invisible light," the same effect upon the ear producing "inaudible sound."

How to account for this? In my overweening eagerness from "this nettle danger to pluck the flower of safety" for my argument, am I going to illustrate the "vaulting ambition which o'erleaps

itself and falls on the other?" Yet withal will I venture. If a certain velocity of ether vibration will cause in the retina chromatic illumination, and additional velocity will produce "invisible light," is it due to a forcible and compressive cohesion of the retinal molecules where their chromatic evolution is, as it were, smothered, their polarity disturbed and the intensely vital substantia gelatinosa of their nervous matter refuses to respond because of such rude treatment? We know that in certain diseases of the eye vision is disturbed, nay, may even be destroyed by too forcible compression of the retina. Is this a physical result alone, and is it due to the same cause—retinal molecular compression? If so, it only adds additional weight to the truth of my argument as applied to pressure by excess of ether vibration. At this point it might not be inapposite to note the effects of certain drugs and poisons in producing chromatic intensity of the retina, but it would be premature and take us too far afield, and because all such ocular and spectral effects must be looked for in cerebral irritations and their retroactive influences. All such considerations will come along in the course of investigation of ether vibration and its effects upon the brain.

THE USE OF CAT-GUT LIGATURES IN ABDOMINAL OPERATIONS.

By Homer I. Ostrom, M. D., New York.

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LIGATURES must always be regarded as foreign bodies, and as such are open to the objections that the part in which they are used cannot be regarded as healthy, or the operation for which they are used as completed, until they are removed. Though the ligature may be perfectly asceptic and the wound healed by first intention, a body, which does not belong there, remains as the result of the operation, and it is impossible to say when it may begin to cause irritation, or, if not this, when it will be absorbed or encysted.

The absorption of the ligature I look upon as the most favorable disposal that nature can make of the foreign body. If it becomes encysted any process that may take place looking toward its ultimate removal, must be a very slow one; meanwhile the foreign body remains, constricting tissues and nerves, and giving rise to more or less irritation.

Many of the unsuccessful cases of surgery, and especially of abdominal surgery, I believe have their origin in the ligatures that remain after the operation. We are frequently confronted with the question, "Why does not the pain, for which the operation was performed, abate?" My answer, at least to myself, is, because the ligature is not yet disposed of. This can be the only reason for so many failures to obtain relief that we are obliged to record.

This opinion contains nothing new, for it is one that has been discussed ever since the use of ligatures was introduced into surgery; but it is nevertheless one that we as surgeons must discuss until we have found a solution of the matter.

Upon the belief that the ideal ligature is one that nature can dispose of when it has done its work, we must seek some material that will meet the requirements of aseptic surgery; that is sufficiently durable to remain intact until the object for which it is used is accomplished, and that will then no longer resist the absorbing powers of the system, but will disappear and leave no trace behind it.

Silk, as far as strength is concerned, leaves nothing to be desired. It can be rendered perfectly aseptic, is easily tied, and can be obtained of any thickness. But the very grave objections confront us, that the time of its absorption is uncertain, and that it is more liable to become encysted than to become absorbed.

While many other materials have been proposed to take the place of silk, I think the choice will lie between it and cat-gut for the ligating of arteries, and the suturing of internal parts.

We meet with two difficulties in using cat-gut. *First.* It has been found very difficult to prepare it aseptically. *Second.* It absorbs too soon unless hardened by artificial means. Many fatal cases of hemorrhage have resulted from the too rapid absorption of the ligature so prepared, and many fatal cases of septicæmia have had their origin in the septic ligature. For these reasons surgeons have not looked favorably upon the use of cat-gut, especially in abdominal work.

For several years I have experimented extensively with the object of preparing cat-gut to meet the requirements exacted by and in abdominal surgery, and I think I now have an article that is wellnigh perfect, as I have it prepared under my direction in my Private Hospital. For over a year I have used it exclusively in abdominal work, and in certainly ninety-five per cent. of all operations. I have yet to record my first case of infection from its use, and so far as its durability is concerned, the only fault I have to find with it is that it lasts too long; even the finest number of cat-gut will last four and five weeks.

For intestinal and plastic work I use the finest cat-gut without fear. This enables me to use a very small needle, a matter of no little importance in this class of operations.

My method of preparing the cat-gut is as follows:

I place the raw German cat-gut in ether, where it is allowed to remain for twelve hours, at the end of which time all the fat has been dissolved out of the gut. The gut is then removed from the ether and thoroughly dried. This part of the process is of the utmost importance, and the exactness with which it is attended to will have much to do with the success or otherwise of the preparation.

Next the gut is placed in the following solution for thirty hours:

℞

Bichromate of potash	1½	grammes.
Carbolic acid	10	"
Glycerine	10	"
Water	480	"

Dissolve the bichromate of potash in the water, then add the carbolic acid and glycerine.

Before placing the coils of cat-gut in the solution, arrange them on a cylinder the diameter of the coil before it is enrolled. At the expiration of thirty hours I remove the gut from the solution, being careful to have it remain on the cylinder upon which it was found before it was placed in the solution. From the solution, the gut is wound immediately on a wooden frame, the sides of which are one metre long. The ends of the frame over which the gut is wound, should be covered with gauze, otherwise the gut will as it contracts in drying become brittle at that place. Care is required in winding the gut on the frame; it should be wound in separate strands, not one over-lapping the other. The frame is then placed in a warm, dry room, not before the fire, to dry. This part of the preparation will generally consume several days, for it is essential to have the gut dry very slowly; if dried too fast, it loses its strength, and hence cannot be depended upon at the time of operation.

When the gut is thoroughly dried it is ready to sterilize. This is done under pressure in alcohol. The gut is kept in absolute alcohol until wanted for use. It is then boiled again, and from the tube in which it is boiled is taken for use.

Cat-gut, so prepared, is absolutely sterile, as shown by cultures. It is very durable, lasting, as I have already said, five and six weeks.

In vaginal hysterectomies I use gut so prepared exclusively, for I have discarded clamps for the broad ligaments, and now tie the uterine and ovarian arteries with the cat-gut I have described. In my abdominal hysterectomies I use the same material, both for securing the arteries and to sew up the broad ligament. The durability of this cat-gut is tested well in herniotomy. I use it not only to secure the sac, but also to sew the abdominal walls, and to hold the fascia together. Of course, the superficial structures are held together with silkworm-gut, but after all, the strain comes upon the deeper sutures.

Cat-gut prepared as I have described it seems to me an almost ideal material for ligatures and sutures. Certainly my experience with it has left nothing to be desired.

A REPORT OF FOUR CASES OF ANÆMIA TREATED WITH HÆMABOLOIDS AT THE METROPOLITAN HOSPITAL, NEW YORK.

By Ephraim D. Klots, M.D.

HÆMABOLOIDS is a concentrated form of nucleo-albumin derived from the vegetable kingdom, to which has been added an extract of bone marrow, nuclein and beef peptone.

Nucleo-albumin is a highly complex polymeric substance composed largely of an albuminous material. It differs from proteid bodies in general, in that each molecule contains an atom of iron and one of phosphorus.

Case 1.—George J., age fifty-four years; secondary anæmia subsequent to an attack of acute malaria. Patient had nine paroxysms of the tertian type. The last occurred one week previous to commencing this treatment. The tips of his fingers were cold and a pale bluish color. The conjunctival and mucous membranes showed him to be anæmic. He received one ounce of hæmaboloids three times a day a half hour before meals.

	Weight.	Percentage of Hæmoglobin.	No. of Red Blood Cells.	No. of White Blood Cells.
	141	59	3,100,000	8,000
End of 1st week	141	62	3,600,000	8,000
End of 2d week	143	67	3,800,000	8,000
End of 3d week	143	72	4,040,000	7,500
End of 4th week	145	79	4,200,000	6,000

At the end of the fourth week there was no evidence of anæmia except as read from the hæmoglobinometer. His general health was good and his condition was much improved.

Case 2.—Andrew M.; age sixty years; idiopathic anæmia. From time to time patient would have attacks of illness without apparent cause. Has on several occasions had his blood examined and has taken treatment for his anæmia with varying, but generally unsatisfactory, results. His anæmic condition is the only apparent cause for his debilitated and depressed condition.

The hæmaboloids was administered in one ounce doses one-half hour before meals.

	Weight.	Percentage of Hæmoglobin.	No of Red Blood Cells.	No. of White Blood Cells.
	133	54	2,580,000	9,500
End of 1st week	135	59	3,100,000	9,000
End of 2d week	135	61	3,320,000	9,000
End of 3d week	137	66	3,640,000	7,500
End of 4th week	137	75½	3,900,000	5,500

At the end of the fourth week he had gained flesh and strength. His appetite was greatly improved and his general condition showed a decided change for the better.

Case 3.—Dominic, G.; age forty years; secondary anæmia. Patient a sufferer from chronic rheumatism, with sub-acute exascerbation. A recent attack kept him in bed for two weeks. At the beginning of his convalescence, when this treatment was instituted, he was weak and had no desire for food. He received hæmaboloids, one ounce three times a day at meals.

	Weight.	Percentage of Hæmoglobin.	No. of Red Blood Cells.	No. of White Blood Cells.
	131	40	2,480,000	8,000
End of 1st week	132	48	2,810,000	7,000
End of 2d week	141	65	3,480,000	8,000
End of 3d week	144	74	3,800,000	6,000
End of 4th week	147	82	4,200,000	6,000

His appetite immediately began to improve. He gained flesh and strength constantly throughout the treatment.

Case 4.—Edward R.; age thirty-six years; secondary anæmia. Entered the hospital suffering from acute alcoholism and a subsequent gastritis. He had been poorly nourished for several weeks.

	Weight.	Percentage of Hæmoglobin.	No. of Red Blood Cells.	No. of White Blood Cells.
	137	52½	2,480,000	6,000
End of 1st week	142	61	3,240,000	5,500
End of 2d week	144	68	3,620,000	6,000
End of 3d week	145½	77	4,120,000	6,000
End of 4th week	147	84	4,320,000	6,000

He gained flesh and strength constantly from the commencement of the treatment. Fleischl's hæmoglobinometer was used for determining the percentage of hæmoglobin, and in each case all examinations were made with the same pipette. In counting the corpuscles and leucocytes the Thoma-Zeiss instrument was used, which determines approximately the number of cells in a cubic millimetre of the blood examined.

THE HYDRIATIC METHOD IN TYPHOID FEVER, WITH REPORT IN TWO CASES.*

By Elmer Lee, A.M., M. D., Ph. B., New York.

THE idea created in the professional and lay mind that hydriatic treatment refers, principally, to forcible immersion of the sick into tubs of cold water is naturally more or less repugnant to a refined sensibility. Such is not my understanding of the practice of hydriatics, either in typhoid fever or any other fever.

The greatest credit and honor belongs to Dr. Brand and his contemporaries for the splendid example of effective typhoid fever treatment which he began in 1865, and which has since been continued to his great fame and the advantage of humanity. As is well known, the Brand treatment principally depends upon tub baths at a temperature considerably below the normal, and at frequent intervals during the twenty-four hours. There is, practically, no administration of drugs of whatsoever nature. It has been demonstrated by a large number of cases and by independent clinicians that the rate of fatality by this process of treatment is reduced as low as 1 per cent. This result is so favorable that it really leaves to the original investigator only the privilege of independent experiments with reference to the refinement of Brand's general method. So that what is said with reference to typhoid treatment of two recent cases with which this paper is concerned relates especially to a further simplification and omission of those features of hydriatic methods which are objectionable and distressing to the patient, and to the sympathies of the family and friends.

As an illustration of the charming influence of hydriatics upon the course of acute fevers, two recent cases in practice may be described in brief detail.

A telephone message was received Wednesday afternoon, November 25th, from the Convent of the Sacred Heart, that Helen W., aged 7, was dangerously sick. Upon arrival at the convent the sister informed me of the grave character of the sickness and that it was supposed to be diphtheria. The mother of the child was present and stated that for five days her child had been peevish, restless and unusually troublesome. The supposition in the convent was that the child was spoiled and wilful.

For twelve hours this little girl had been unconscious, not knowing even her own mother. The face and features was swelled and unnatural in appearance, the lips were thick and covered with a dry scum; the tongue was thick and covered with a dark coating, while the throat was filled with sticky mucus and the tonsils large and of a deep red. The abdomen was distended and pressure revealed the presence of fluids and gases in the intestines.

During the preceding two days there had been moderate diarrhœa. The temperature of the patient was 104.2°, the pulse was 130 and weak, while the respirations were shallow and rapid. The pupils were contracted, and the child was disposed to be, for the most, in a comatose condition. At the time of the first visit the diagnosis was not able to be definitely determined. The symptoms, however, favored the opinion that it was typhoid fever which was developing. It was not necessary to state to the mother that her child was dangerously sick. It was plain enough for any one to see it.

After the examination it was stated to the mother that the child would be convalescent within four or six days, provided her consent was secured to agree not to interfere with the management of the case.

Without waiting for any confirmatory diagnosis, or to waste a minute of valuable time, arrangements were immediately made to begin a systematic scheme of treatment. The child had been lifted from the bed and placed upon a table near the window, at the time of my arrival, to further facilitate the examination. In this position, with the assistance of the sister in charge, a fountain syringe filled with warm water was brought, together with a large bedpan, and the colon was well irrigated. The little patient was then laid in her bed and the mother removed its flannels, including a nightgown and wool underwear, which were directed to be laid aside during the first few days, in order that the treatment could be more easily carried out. A blanket was placed under the child, while the one above it was turned down over the feet; in this position water, with a temperature of 75°, from a fountain syringe hanging from the bedpost, was directed through a small sprinkle nozzle, such as the one which is here shown to the society, first on the front and then upon the back of the child. During this sprinkle bath the effect of the shock from the cool water upon the surface of the body caused the child to stand up in bed, which was the first evidence of conscious volition for twelve hours. The child fought against the gentle spray at first, as did the mother, who exclaimed that she would not consent to have her child hurt. The amount of water required for the sprinkle bath would be about a small teacupful. After the bath the child was covered with a blanket and soon went to sleep. The water from the spray was allowed to evaporate by gentle friction with the hands.

*_The Hydriatic Method in Typhoid Fever, with Report of Two Cases._ By Elmer Lee, A. M., M. D., Ph. B., Vice-President American Academy of Medicine; Chairman Section on State Medicine, American Medical Association; Consulting Physician Convent of the Sacred Heart, New York. Residence in Chicago prior to May 27, 1897.

The internal treatment in this case, as is my rule, according to the age of the child, consisted of two ounces of soft water adminstered by the mouth every hour. To each dose of water there was added one teaspoonful from a full glass of water in which there had been dissolved 1-100 of a grain of digitalin, a tablet taken from my hypodermatic case. A compress of linen wrung out tightly from ice water was placed over the abdomen and covered with flannel. This was changed every hour, likewise an ice-cold compress wound around the throat and secured with a flannel bandage.

The nurse was instructed not to offer the child any food whatsoever, and to give the doses of water and sprinkle baths at intervals of two hours throughout the night. On the following morning the temperature was 101°, the pulse 120 and the child showed an inclination to observe what was going on.

The treatment as outlined was faithfully followed during the first forty-eight hours, after which, owing to improvement, the intervals of the baths were extended to three hours and the doses of water and placebo to intervals of two hours.

On the morning of the 27th temperature was normal, pulse 96; and, at the request of the mother, the child was permitted to take a little food, consisting of scraped beef, nicely broiled, together with a piece of dry bread. Whereupon in the evening, the temperature arose to 101. On the morning of the 28th the temperature was normal, as on the preceding morning, and the pulse 96. No food was given during this day. The bowels were gently irrigated with a quart of warm water. On the morning of the 29th, which was the fourth day, the morning temperature was 100.2 pulse 98. Temperature in the evening normal. No food administered. Morning of the fifth day temperature normal. The child made an uninterrupted and happy recovery.

The points of interest about this case were the severity of the early symptoms, the diagnosis of typhoid fever by exclusion, and the simplicity, rapidity and effectiveness of the treatment. The child was confined to its bed for five days, during which time it partook of one meal, which was on the second day of the sickness, followed by increase of fever; during the sickness the sense of hunger did not appear until the temperature was normal, and until the temperature was finally normal on the fifth day, no inconvenience was experienced, by withholding the food, the child was perfectly satisfied and said very little about it.

Another feature of the treatment is the method of giving the bath with the sprinkle nozzle, using but a small quantity of water, giving the least amount of discomfort to the patient and to the attendants. After the first bath given to this little patient there was no further interference by the child or the mother, for it was plainly evident that it was contributing to the rapid recovery of the case.

The administration of water, with a teaspoonful of placebo, was easy to take during the fever, and confirmed the numerous similar experiences for good which have been observed in my practice.

In this instance it is instructive to state that Dr. Gluzinski, of Cracow, after extended experimentation, has determined first: "That during the whole course of the fever, except in the convalescent stage of typhoid fever, the gastric juice contains no hydro-chloric acid;" second, "the gastric juice digests neither in the organism, since it contains no peptones, nor outside the organism." Third, "with the disappearance of fever, or somewhat later, the gastric juice becomes capable of digestion, both within and without the organism."

This scientific observation accords with my own experience, and it is upon the recognition of this chemic fact that every kind and character of food is withheld during the period of fever in typhoid cases. Therapeutic fasting with hydriatic treatment, justified in practice, has made recovery quick and pleasant, and the abortion of this dreaded disease practically certain.

Case No. 2 is of a very different character from that just related. The patient was a case of Dr. Moorehead's, which was treated in the Post-Graduate Hospital of the west side. The history of the case is as follows: Mrs. C., who had formerly been a trained nurse, was supposed to have had a miscarriage. She was in a few days thereafter, taken to St. Elizabeth's Hospital on account of what was believed to be septic fever, resulting from retention of some portion of the placenta. A few days after arrival at the hospital a curettment was performed, without giving any relief to the patient. It was the purpose to again curette, thinking that there was still remaining some of the membranes which were thereby keeping up the fever, but before this was done and at the request of the friends of the nurse, the case was removed to the Post-Graduate Hospital, and came under the care of Dr. Moorehead, who was the physician of the family in which the nurse had been employed. During the first week in the Post-Graduate Hospital the fever rapidly mounted up and the diagnosis was determined to be typhoid fever. The case became extremely unpromising, and during the second week of the sickness the temperature ranged between 105 and 106° at both morning and evening observations. The woman was, during the second week, partially paralyzed. She had no control of diarrhœic movements, she was unconscious most of the time and was given up to die. The case was extremely disagreeable to manage owing to the incontinence of urine and feces, as well as on account of the utter helplessness of the patient to co-operate. At the request of Dr. Moorehead a consultation was held with him at the end of the second week. The treatment, up to this time, consisted of sponge baths, salol, strychnine; whiskey and milk internally at frequent intervals. At the time of my visit the temperature was 106° and the pulse was so faint that it could hardly be felt. Intestinal hemorrhages, occurring at frequent intervals, had so far exhausted the strength of the patient that the case appeared to be hopeless.

Hydriatic treatment in this case consisted of

morning and evening irrigation of the bowels with cold water, sprinkle baths of cool water, 70° F., with friction, given every two hours; cold compresses applied to the abdomen, also to the head and temples; four ounces of water internally every hour during the first 48 hours; no food, no medicine; slight improvement was noticed on the following day, and on the fourth the temperature was 100°, patient was conscious and showed evidences of recovery. From this time the treatment was modified, fewer baths, water administered regularly but in less quantity, food permitted, but in extreme moderation and at long intervals. Convalescence was reasonably rapid, and at the expiration of six weeks the case was discharged well.

This is one of the most marked examples of the effect of hydriatic treatment in typhoid fever that I have ever seen, for there cannot be a reasonable doubt that this patient would have died if the former plan of treatment had not been changed. If the method which has been set forth is faithfully carried out the cases recover quickly, but few baths are required, and irrigations of the bowels can be omitted after the first few days of treatment.

With reference to therapeutic fasting, my rule is to give no food until the patient is practically convalescent. During the period of the fever, according to the researches of Gluzinski, food of every character is contraindicated. Clinical experience has proved the truth and the value of Gluzinski's experiments.

It must be admitted that cold tub bathing is repugnant, especially in private practice, and cannot be carried out in all cases. It is found that a sprinkle bath gives tone to the nervous system, is equally effective and cannot be objected to, as it is simple, easy to control and pleasant. It reduces the fever, tranquillizes the patient, and gives the least amount of trouble to both the patient and attendant.

The internal administration of water is based both upon physiologic data and experiment. It keeps the blood fluid; it prevents dryness of the skin and mucous membrane; it cleanses the system of waste, is agreeable to the patient and is absolutely free from a single contraindication. No case of fatality from typhoid fever has occurred in my practice for eight years, or since the adoption of the hydriatic method of treatment. The details of this plan have been gradually mastered until it has become a perfected and reliable system, applicable to all classes of fevers.

The number of physicians who have recognized the merits of hydriatics has largely increased and comprises such names as Dr. Charles E. Page, of Boston; Peabody, Flint, Ball, Delafield, Baruch and Gilman Thompson of the New York hospitals and colleges; Wilson, of Philadelphia; Shepard, of Brooklyn; Johnston, of Washington; Osler, of Baltimore; Shiler, of Cleveland; Wilkins, of Montreal, together with many others in America and Europe. Credit is also due to Dr. Burr, of Chicago, who has proven the efficacy of hydriatic principles, and is now one of the experts in the treatment of typhoid fever. In this list Dr. Strueh and Dr. Wiener, of Chicago, are to be included.

The essentials of my plan in the rapid treatment of typhoid fever, consists of a systematic application of hydriatics, based upon physiologic considerations, and proved by crucial experiences, during a period of about eight years.

CONCLUSIONS.

First. The internal administration of soft water, in definite doses, of proper temperature and at regular intervals (with a satisfactory placebo always incorporated), according to the age and sex of the patient, the temperature of the fever and the character of the urine; against which there are no veritable contraindications.

Second. The application of water of suitable temperature to the surface of the body, preferably in the form of a sprinkle or rain contact, at frequent and regular intervals as indicated by the severity of the symptoms, and the age and sex of the patient.

Third. The application of compresses of linen wrung dry from ice water, applied over the abdomen, and to the head and neck, as often as necessary and so long as fever continues.

Fourth. The use of warm, cool or cold irrigations of the colon, with plain, soapy or normal salt water, from one to four times a day, and from one to three liters in quantity, during the acute stage and while there is fever.

Fifth. Owing to the absence of hydrochloric acid and peptones in the gastric juice during the febrile stage in typhoid fever, food of every character and of every quantity is contraindicated, and can only augment the complications and prolong the disease.

Sixth. In collapse and exhaustion from hemorrhage, intravenous transfusion, of one-half to one liter of normal salt solution, is indicated and strongly recommended. The transfusion, or subcutaneous injection, is to be repeated from time to time if there are unfavorable reactions after such use.

Seventh. Drugs and stimulants are absolutely contraindicated, as they are not essential to nutrition, but further increase the labor of the system and exhaust the vitality in the process of oxidation and elimination of tissue waste and toxic products.

Eighth. In the hydriatic management of typhoid fever ulceration with perforation of the intestine has never been known to take place; also as there are no distressing after effects as there are no sequelæ.

Ninth. It is my experience and my belief that when cases are seen within the first five days that typhoid fever can be aborted and convalescence established within ten days to two weeks.

Tenth. A treatment which is so simple, and which has been proven by hydriatic experience with many thousands of cases, ought to secure its adoption by the whole profession in the interest of science and for the benefit of the sick.

—The American Medical Editors' Association will hold its annual meeting at the Aldine Hotel, Philadelphia, June 1st, at 8:30.

What is Psychology?—*By Charles M. Barrows.*—The up-to-date people of this wide-awake world are ready to turn every new interest into a fad. And now that science has found a way to subject mental experiences to the test of exact experiment, all the bright folks want to talk psychology. This hitherto mysterious word, rarely heard in common speech, has come to be the easy shibboleth of educators and schools, the learned professions and current literature. Men and women rejuvenate their peculiar mental experiences and send them to the psychical research society; mothers watch their children, to detect physico-psychical manifestations; romance writers fascinate the reading public with the "exceptional mental states" of their personages; dabblers in metaphysics displace the standard terms of philosophy with mouth-filling names borrowed from the new vocabulary.

What does this mean? To what end are all these fresh-coined words dragged to the front? What thoughts are stirring in the eager brains which strive to put them into the technical language of the new mental lore? Are they aware what a change has come over psychological studies in these latter days, since the methods of abstract logic have given place to scientific investigation? Do they know that the huge treatises in which the old philosphers discussed the phenomena of soul contain little in common with the sort of work done in the laboratories of Wundt and Stanley Hall and Elmer Gates?

The wide difference between the psychology of the past and that of to-day is plainly implied in the change of definition. The fundamental statement in a school text-book, published not more than a dozen years ago, reads: "Psychology is the science which treats of the phenomena and faculties of the human soul." Another elementary work, published late last year, says: "Psychology may be defined as the science of mental processes." By derivation, the word phsychology should mean a doctrine of the soul; and from the times of Socrates and Aristotle until a very recent period, it was assumed that the phenomena of the sentient thinking principle are different from the phenomena of matter. In accord with this view students in this department simply observed the various manifestations of soul as mental power, classified them, and ascribed them to the appropriate spiritual faculties of the man. No material elements entered into this conception of mind. The theory was that an immaterial soul cognizes, reasons, chooses, wills; but all these acts are transcendental, and must be considered and judged by introspection and inference alone.

With better knowledge of physiology, the scientific student now asks what happens to man as a physical creature while he is using his mind. He observes that certain sensations precede mental experiences, and that along with every mental act goes a change in the matter of the brain or material organ of the mind. He finds, too, that each definite mental act and the accompanying cerebration occur so exactly together that it is impossible to say that one precedes the other in time, or that one is consequent upon the other according to the law of cause and effect. These facts suggest to the student a chance to apply methods of scientific test to physical phenomena—a thing which could not be done as long as the act of thinking was held to be anterior to and independent of sense and bodily organs. Thus it comes to pass that the term Psychology, as now restricted and employed, denotes the science of mental processes. The college course and the laboratory, therefore, deal with processes from a physical point of view, and not with abstract qualities and faculties from a metaphysical point of view.

A process is not a thing, but, as the name implies, it is a moving forward, becoming, continued change. It denotes simply advance, a flowing like the current of a stream. What science insists on is that, in this department of inquiry, metaphysical speculation shall give way to "the observations of a workingman on workingmen; * * * the record of some law whose working was surprised by the observer in natural action." Science does not deny that there is a metaphysical side to every mental problem, which it neglects; but it does claim the right to devote its attention exclusively to such facts of mental life as can be subjected to critical analysis and psychical demonstration. How wide is this departure from the canons of the older text-books, which treat psychical phenomena and the faculties of the human soul apart from bodily experience, is forcibly shown by the following statement, copied from a leading work expounding the doctrines of the new school. Having said that for the purposes of science it is a superfluity to posit a soul, the distinguished author writes: "My final conclusion, then, about the substantial soul is that it explains nothing and guarantees nothing. Its successive thoughts are the only intelligible things about it, and definitely to ascertain the correlations of these with brain-processes is as much as psychology can empirically do."

Current human psychology, then, regards mind as nothing more or less than the sum total of the *mental processes* experienced in a single lifetime. It treats consciousness, ideas, feelings, emotions, will, and the whole train of intellectual operations as so many processes (forward movements). It attempts to analyze mental experiences into their simplest components. Then it tries to discover by experimental methods how these elements combine, at the same time to bring the mental phenomena into connection with their proper bodily conditions. Lastly it would announce the laws which govern the processes thus studied.

In prosecuting their work, psychologists of the modern school discriminate between the normal mental processes in a healthy brain, and those which belong to mental pathology. Their chosen field for the present is limited to the study of experiences that are regular and typical, rather than those which result from derarged or otherwise abnormal conditions of the organism. It must never be assumed that the chief end of this scientific pursuit is to run down spooks, interview ghosts, hypnotize weak-willed folks, and perform occult experiments to gratify a morbid curiosity.

Scientific psychologists are as seriously in earnest as were their predecessors of the past. They are doing a real, praiseworthy work, in their search after truth. They seek the ends of use, to do, like Lord Bacon, "something which will add to the comforts or alleviate the calamities of the human race."—*Journal of Metaphysics.*

A Substitute for Amputation.—A new and simple mode of treatment has been introduced in France, by which, it is claimed, a large proportion of injured limbs now usually amputated can be saved. The method, which is due to Dr. Reclus, was recently described before the French Congress of Surgery, and is thus explained by the *Hospital*, April 18th (*Lit. Dig.*): Whatever the extent or gravity of the lesions, he [Dr. Reclus] never, under any circumstances, amputates the injured limb, but merely wraps it in antiseptic substances by a veritable "embalming" process, leaving nature to separate the dead from the living tissues. This method of treatment possesses the double advantage of being much less fatal than surgical exeresis, and of preserving for the use of the patient, if not the entire limb, at any rate a much larger part than would be left after amputation. He advocates this very conservative treatment on account of the excellent effects of hot water, which he uses freely. After the skin has been shaved and cleansed from all fatty substances by ether, etc., in the usual way, a jet of hot water 60° to 62° C. (140° to 144° Fahr.), but not higher, is made to irrigate all the injured surfaces, and to penetrate into all the hollows and under all the detached parts of the wound, without exception. This is the only way of removing all clots, and to wash away all foreign bodies, together with the micro-organisms they may contain. The advantages of hot water at this high temperature are threefold: (1) Hot water at this temperature is antiseptic, heat greatly increasing the potency of antiseptic substances; (2) it is hemostatic; (3) it helps to compensate for the loss of heat resulting from the bleeding, and especially from the traumatic shock. After the "embalming" process, and the dead tissue has been separated from the living, the surgeon has nothing to do except to divide the bone at a suitable spot.

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MEDICAL CHARITIES.

THE city is full of dispensaries and full of hospitals, with a fair number of diet kitchens, and yet it is hard work to get a poor person without any means as a free patient into some of our hospitals, which are supposed to do a large amount of charity work. With dispensaries the matter is different. Last year 750,000 persons in this city alone received medical treatment at so-called charitable institutions, and yet the prescriptions were not by any means all gratuitous. In many of these institutions a charge of ten cents or a quarter of a dollar is made for a prescription—to pay, it is said, for the cost of the medicine—and perhaps twenty-five cents for a bandage. The revenue of some of these so-called free institutions is sometimes large enough to give a moderate support to the attending physicians in the early years of their profession. And yet, with crowded clinics, the practice must be to a certain extent routine and empirical. The physician has not time in the crowded clinics to give the close attention to diagnosis or to individualize his cases in the way of treatment as accurately as in private practice. Take the Vanderbilt Clinic, for instance, with its 150,000 cases a year. There must be more or less routine in treatment and diagnosis. The cough mixtures are made by the gallon, the pills and powders by the hundred weight. And yet these institutions are patronized, not by the poor alone, but by a large number who can afford to pay for the best advice. Thus what was intended as a charity, in whole, or in part, is utilized by a class for which it was never intended. This is one reason why our profession seems, and is to a certain extent, overcrowded, and why every year so many are obliged to engage in other employment. If this is the case now the outlook for the future is still less encouraging for the throngs which each year pass from the medical colleges into what they hope will be a lucrative profession to enter which they have spent years of study. We say for the future the outlook for many who desire to enter the profession is still less encouraging, for the simple reason that a better understanding of food and the laws of hygiene is acting so powerfully as a preventive of disease as to greatly lessen the number of physicians required.

There is no mistaking the fact that we are standing on the threshold of a new world in the science and art of living, in which the most important actors are the thoughtful scientific men in our own profession who, by their study in getting at the economy of life, are also doing much to prevent and eradicate disease. There must be some cause for the greater absence of epidemics during the past year, which in preceding years have reaped such a rich harvest of death, and which has lessened the death rate to an extent never known in this city before. There is still another factor which has contributed to a certain extent to this great change in public health and which in the future has a still more important part to play, in which again our profession must be the chief actors. This factor is the proper selection and preparation of food to meet every condition of life, not only in sickness but in health, as taught to the nurse in the diet kitchen of the training school and put in practice in the wards of the hospital. The nurse thus becomes familiar with facts worked out in the laboratory and tested in daily practice by the thoughtful physician as it regards the nutritive value of food and its special adaptability to the wants, not only of the different organs of the body, but of the entire system, and with him becomes a missionary in transmitting the health-producing philosophy from family to family.

The food question is one which in the future will take the deepest hold upon national prosperity and home comfort, and all our dispensaries, hospitals, asylums and churches, should and will be active workers in disseminating clearly written and well-digested facts in reference to the selection and preparation of just the nutrition which the human system requires in the different stages of its life from infancy to old age. It is true, two much overcrowded professions, theology and medicine, will be relieved of much of their surplus material, but in the survival of the fittest in their close work

with nature and their more profound practices and scientific attainments both the professions and the public will be the gainers. We may have less platitudes from the pulpit, less empyricism from the medical profession and less speculation and theory from both, but in well-proved facts we shall be much nearer the bed-rock of nature, the evolution of truth and the regeneration of the world.

THE NEW PSYCHOLOGY.

PROF. ELMER GATES, of Washington, is one of the most active and brilliant of the new school of psycholgists. The occasional insight he gives us into his work, the new world it opens to us, makes us impatient for the time when he shall be ready to give the results of his investigations in a more complete form to the public. In his recent experiments he shows that the ether which fills all the interstellar universe really consists of distinct particles, but these particles are as much smaller than a chemical atom as a chemical atom is smaller than the sun. In carrying out his experiment it became necessary to produce an absolute vacuum which had never been accomplished before. To produce this result the professor takes a tube of potash glass, which is so hard that it requires a much greater heat than any other kind to melt. He fills the tube with another sort of glass which has a melting point 500° lower than that of the potash glass. The tube and its contents are then subjected to slow heating until the soft glass is sufficiently melted to enable it to be pulled out bodily part way from the tube of hard glass containing it. The space thus left is an absolute vacuum. There is not one particle of air or any other gas, and yet here is a quantity of absolutely pure ether composed, as he proceeds to show, of distinct particles. In this experiment a metal ball on the end of a platinum wire is fixed in place incidental to the process of creating a vacuum. A glass lens focuses the sun's rays at a point near the ball. At the point of focus, owing to the sun's energy, the particles of ether move about more rapidly and are farthest apart. Then the ball swings toward the point of less density. This it does every time. This the professor regards as proof that the ether which fills all space, and whose wave motions make light and transmit electrical energy from the sun, is a material substance and composed of particles thickly crowded together, but so minute that they penetrate through everything.

Prof. Gates' laboratory, in which he is working out these problems of psycho-physical research, is filled with the most delicate instruments the human mind can conceive to accomplish his purpose. Fortunately for science there is no lack of money at his disposal, a wealthy friend having appropriated $25,000 a year to further the professor's work, of which he is now only at the beginning. Prof. Gates has in contemplation a line of investigation which, if we are not mistaken, judging from the results already obtained, will place upon a firm foundation a science of therapeutics which will do much to harmonize the medical world and prolong human life.

BABIES DESERTED.

IT has been said, and we think correctly, that motherhood brings out the tenderest, strongest feelings of a woman's nature. Before the birth of her child she may have been but little more than an animal, but a touch of her child's living body and a look into its eyes awaken a feeling of love, of tenderness, hard to resist. And yet each year 3,000 children are cared for under two years of age by the City of New York, who becomes a gracious provider and parent. Of these an average of 120 from a few hours to a few days old are found by the police, on doorsteps, in hallways and ash cans, and in all sorts of places where they can be deposited without observation. Of course, many are dead. The list of foundlings and abandoned children is steadily on the increase. The mothers of only five out of each hundred are known. These little waifs are cared for mostly by foundling hospitals and institutions like the Home for the Friendless. From there the children usually, when about three years old, are sent, through agreements of adoption, all over the country, where, as a rule, they are well cared for, and grow up as useful citizens. Early in our professional life we had the medical charge of the Home for the Friendless, whose great work was in gathering into its fold the uncared-for and abandoned children of poverty, drink and crime. Not long ago a lady of marked culture and refinement, of dignified and stately presence, entered the office. Looking me for a moment intently in the face she held out her hand and said with trembling lips and a voice full of emotion: "How well I remember you in those faraway days which now seem but as yesterday. How I used to watch for your coming and the pleasant word you always had for me. They were all kind to me in the Home for the Friendless, and kind to me also in the new home I entered in the then faraway West as an adopted daughter. I have children of my own now, and my husband

is a Governor of a Western State, rich in this world's goods and honor."

And so in these later years the memory of the past is turned again and again, as one after another who have reached wealth and fame refer with kindling eye and a warm grasp of the hand to those days when they were foundlings, with no knowledge of father or mother or home. Not all, however, are so fortunate, and those who adopt these waifs in the great sea of life often do so at great risk. For too often, alas, the seeds of an heredity of vice and crime, in spite of all care, develop into a sad harvest in later years! Some idea may be formed of the work of one society, that of the Prevention of Cruelty to Children, when its statistics show that in the past twenty-two years 313,649 children have received its aid.

CANCER OF THE RECTUM.

DR. JAMES P. TUTTLE, one of New York's most eminent surgeons and specialists on diseases of the rectum, reprints his article on "Cancer of the Rectum" from the March and April issues of the *Journal* of the American Medical Association which was originally read before the Chicago Academy of Medicine. Dr. Tuttle opens his paper with the statement that "after centuries of experimentation, in which almost every known drug has been tried, we are forced to acknowledge that thus far we know of no remedy which offers the faintest assurance of the cure of cancer, if we except the arsenic pastes. The rapidity of absorption and our inability to control the action of arsenic renders it too dangerous to use in cancer of the rectum, except perhaps in epithelioma of the margin of the anus. Until late years the high mortality and rapid recurrence after operation rendered this avenue of escape as hopeless to the sufferer as that of therapeutics, but since the discoveries of Lister and Kraske they have been gradually declining, and the radical removal by knife offers to-day in cases, especially of an early diagnosis, assurance of relief from suffering and a well grounded hope of permanent cure."

Dr. Tuttle gives three tables of statistics. The first of which three were 487 cases operated on by the perineal method with a mortality of 22.4 per cent. This embraced only those cases situated near the anus. Operations by this method at the present day show about 8 per cent. mortality. In table No. II. 502 cases are tabulated of perineal and sacral operations after the advent of antisepsis, showing a mortality of 20 per cent. In table No. III. 259 cases are given with a mortality of 11.7 per cent. These statistics bring us down to 1892. Since this 173 cases are given of sacral and perineal operations with a mortality 13.3 per cent. Of the perineal excisions there are 70 with a mortality of 7.1 per cent.

From these statistics Dr. Tuttle draws the following conclusions:

"1. Cancer of the rectum can be cured in over 10 per cent. of the cases.

"2. The mortality from radical operation, though still considerable, is not alarming, and is decreasing with every year's experience.

"3. The radical operation prolongs life on the average over 100 per cent.

"4. As a palliative measure, excision is far more successful and beneficent than any other measure.

"5. The sequences, though numerous, are not at all intolerable, and should weigh little in our considerations when it is a question of so serious a disorder as cancer of the rectum."

NIGHT SWEATS.

MANY remedies have been suggested for night sweats, among the most prominent of which are atropine and agaricus. The former is often objectionable on account of the excessive dryness of the mouth and fancies it produces in those susceptible to the drug, and the latter, although sometimes very effective, often fails entirely. The use of camphoric acid in this trouble is strongly emphasized by Dr. Hare and many others within the past few years. Dr. Hare used the drug extensively in 1890-1 in St. Agnes's Hospital, where he found it controlled the large majority of sweats in tuberculosis with which some of the wards were filled without any unpleasant after results. About twenty grains given an hour or two before the expected attack in whiskey or brandy, or placed in a dry powder on the tongue, will usually be sufficient to produce the desired result. Small doses of the acid he has also found of great benefit in idiopathic phyatism or druling of little children, as it controls the salivation without disabling digestio .

ALCOHOL IN MOUNTAIN CLIMBING.

LAST autumn Dr. Otto Snell published in a Swiss Alpine journal a request to climbers to forward their experience to him in regard to the use of alcohol in mountain climbing.

He received sixty communications, thirty-seven of which, or 62 per cent., condemn the use of liquors, wine or beer as an impediment rather than an aid. Twelve are for a moderate use of

wine, but pronounce against brandy and beer. Three believe in taking brandy along, to be used, however, not as a stimulant, but in case of need as a medicine or to mix with glacier water. Only five of the sixty expressed their belief that alcoholic drinks are beneficial or harmless to climbers. The general conclusion drawn by Dr. Snell from these answers is that while in exceptional cases alcohol may be harmless, or possibly useful, as a rule great moderation is desirable, while the majority of experts are for total abstinence until after the climb is over, and some even strongly urge abstinence, or great moderation, on the day before the expedition. One of the correspondents expressed his conviction that the bottled drinks taken along by climbers benefit no one but the tavern keepers from whom they buy them.

As a rule our most eminent surgeons and obstetricians never touch alcoholic stimulants until after their work is completed.

JANET TREATMENT OF GONORRHŒA.

WE have not much faith in the usual forms of abating gonorrhœa, the disease yielding often readily to treatment, but as oftentimes trying the temper of both physician and patient in its complications and its determination to run its full course without regard to treatment. Dr. Goldberg, of Cologne, gives a table of fourteen cases treated by the Janet abortion method. In all but one the cure was effected in so short a time as to justify the use of the term abortion. The treatment was begun in from two to seven days after the appearance of the first symptom, and consisted in injecting twice a day the anterior urethra with a solution of the permanganate of potassium 1 to 2,000 to 1 to 4,000, according to the effects produced. From five to fourteen injections were required to produce a cure. The gonococci disappeared in from two to fifteen days. In all the cases the urine ceased to show any signs of the discharge with the disappearance of the gonococci. All the patients were allowed to go about as usual during the treatment. This treatment seems to give better promise of success than any heretofore tried.

ANTI-TOXIN TREATMENT IN LARYNGEAL DIPHTHERIA.

THE American Pediatric Society in its second report gives an analysis of 668 cases with a mortality of 27.24 per cent. The statistics of intubation in its earlier days showed only 27 per cent. of recovery. The difference of 73 per cent. in mortality is sufficiently marked to attract the attention of every one. Formerly 90 per cent. of laryngeal cases required operation, while with the use of anti-toxins the number is reduced 39 per cent.

The committee recommend that anti-toxin be given at the earliest possible moment in suspected diphtheria. All cases of laryngeal diphtheria two years old and over should receive at the first dose 2,000 at the earliest possible moment. If there is no improvement in twelve hours 2,000 more should be given, to be followed, if necessary, in twenty-four hours, by a third dose of the same amount. Under two years the patient should receive from 1,000 to 1,500 units in the same manner.

STROPHANTHUS.—After a careful clinical study of strophanthus, in each case of which heart tracings were taken, Dr. Wilcox, of the Post-Graduate Medical School, concludes that in heart trouble strophanthus is the drug of choice, (1) in all cases in which we wish to establish compensation, (2) all cases of arterial degeneration in which a remedy which causes more energetic cardiac contraction is required, (3) all cases of cardiac diuresis where diuresis is necessary, (4) all cases of weak or irritable heart, (5) all cases of cardiac diseases in childhood or old age.

THE *Living Age*, in entering its fifty-fourth year, is by opening new departments covering a much wider field than ever before. Its translations bring its readers in close touch with the leaders of thought in every part of the world, while the monthly supplement contains selected readings from leading periodicals and new books. No other magazine keeps the reader so thoroughly posted in the general literature of the world.

THE *Arena*, in passing into new editorial hands, has lost none of its strength, but remains one of the most earnest and able exponents of advanced thought in the magazine world.

E. B. TREAT, the medical book publisher, of 5 Cooper Union, has associated with his house his sons, under the firm name of E. B. Treat & Co., and removed to 241-243 West Twenty-third street, this city.

LARYNGOSCOPE mirrors used in nose and throat work are unaffected by the condensation of the breath if they are smeared with soap and then polished with a dry cloth.

BIBLIOGRAPHICAL.

SURGICAL HINTS FOR THE SURGEON AND GENERAL PRACTITIONER. By Howard Lilienthal, M. D., Assistant Attending Surgeon to Mt. Sinai Hospital, New York City. New York: International Journal of Surgery Company, 1897. Price 25 cents.

In writing this little book the author's aim has been to present a number of observations and suggestions whose value has been thoroughly tested at the bedside and in the operating room. A review of its pages will show how much practical information he has conveyed within a small compass, and this he has been able to do by eschewing all superfluous verbiage and by writing clearly and to the point. The material is well arranged, the typography excellent, and the little volume is of a convenient size to be carried in the pocket and perused at leisure moments.

LECTURES ON THE TREATMENT OF FIBROID TUMORS OF THE UTERUS, MEDICAL, ELECTRICAL AND SURGICAL. By Franklin H. Martin, M.D., Professor of Gynæcology, Post-Graduate Medical School of Chicago; Surgeon Woman's Hospital of Chicago, etc; Author of "Electricity in Obstetrics and Gynæcology." Chicago: The W. T. Keener Co. 1897. 12mo, pp. 178. Price, $1, net.

It has been the object of the author in this little volume to place in permanent form the outcome of a decade of active work in this particular field, and to place in the hands of such as may be interested a concensus of opinion as to the treatment of the subject, in accordance with advanced methods as they exist at present. The effort is exhaustive and full of interest to all concerned.

DISEASES OF THE EAR, NOSE AND THROAT AND THEIR ACCESSORY CAVITIES. A condensed text book. By Seth Scott Bishop, M. D., LL. D., Professor in the Chicago Post-Graduate Medical School and Hospital. Illustrated with 100 colored lithographs and 168 additional illustrations. One volume, royal octavo, pages xvi—496. Extra Cloth, $4, net; sheep or half Russia, $5, net. The F. A. Davis Co., Publishers. 1914 and 1916 Cherry Street, Philadelphia; 117 West Forty-second street, New York, 9 Lakeside Building, Chicago.

The work is a very admirable one for the student and general practitioner. Without going into the minute detail of larger and exhaustive works it still covers sufficient ground to be an excellent, practical guide to the majority of the troubles of the nose and throat likely to come under the observation of the general routine of practice. We are glad to see that the latest developments concerning diphtheria, the blood serum therapy, the medical and surgical management of mastoid diseases and the most approved instruments for application are given marked prominence.

A HANDBOOK OF MEDICAL CLIMATOLOGY, Embodying its Principles and Therapeutic Application, with Scientific Data of the Chief Health Resorts of the World. By S. Edwin Solly, M. D., M. R. C. S., late President of the American Climatological Association. In one octavo volume of 470 pages, with engravings and colored plates. Cloth, $4. Lea Brothers & Co., publishers, Philadelphia and New York, 1897.

The time is ripe for a scientific, practical and authoritative treatise upon this most important subject, which has hitherto never been placed at the command of the profession. Faith in the great curative virtues of climatic prescriptions is too often shown only *after* the failure of drugs, and perhaps then the change is ordered without full knowledge of essential conditions. Fortunately recent years have seen the virtual completion of governmental and professional observations covering practically the whole of the United States and giving precise data of a range of resorts affording climates of almost every variety and excellence. European nations have long since recognized the health and wealth giving value of their climatic resources, and have published full data regarding them. Combining all this information, often in a comparative and tabular form, Dr. Solly has now for the first time furnished the physician with the information necessary to a choice of a climate adapted to a given case. Thirty years of experience and special study have enabled the author to reduce the vast volume of observations to a scientific basis, and to draw therefrom laws affording trustworthy conclusions of practical applicability. The work is therefore one of importance to every physician, since his power for good can be greatly enhanced by adding an accurate knowledge of this science to his therapeutical armamentarium.

The prospectus of this excellent book expresses so clearly its scope that we have borrowed largely from it for our indorsement. There can be no doubt that this treatise will fill a long-felt want by the profession.

CORRESPONDENCE.

CAMPHOR IN FLORIDA.

It is the opinion of far-sighted men who have lately given the subject much attention that the cultivation of the camphor trees in Florida may become of greater importance than that of the orange or any other crop.

The world is looking anxiously for some new source of supply for camphor. Former supplies came from China, Japan and Formosa. In China it is not now cultivated. In Japan only a limited amount of camphor forest remains. This is under Government control, and the output is very limited. The Island of Formosa remains the principal source of suppy. The interior of the island used to be one vast camphor forest. The trees there grow to a very large size. They are said to reach a height of 150 feet. The natives collect the camphor by a terribly wasteful method. The whole tree is cut down and the roots dug up. The wood roots contain the most camphor. The leaves are not used, although they contain a large amount. This wanton destruction will soon annihilate the forests unless the present owners of Formosa can arrest it. The method of preparing the gum varies, but generally the chips of the wood and roots and bark are boiled in great caldrons or pans, and the gum, volatilized, is caught in meshes of straw or tubes over the caldron.

Camphor gum has already been made in Florida from the leaves and twigs of young trees. They yield about one pound of solid, refined gum to every seventy-seven pounds of fresh leaves. It is not necessary to injure the tree. It will bear a great amount of pruning without injury. It is an evergreen and makes three growths a year —in April, June and October. I have on my place here ten trees planted in 1893. They are now fifteen feet high and would have been thirty, but were killed back by the great freeze. The growth is very dense. One can hardly see through the foliage. One-half of the interior and exterior growth could be cut out and hardly be missed. If a freeze comes it does not destroy the value of the foliage, for camphor can be made from the frozen leaves. Few are aware how important is camphor as an article of commerce. Its use in medicine is but a drop in the bucket compared with its use in the arts. The oil, which was formerly considered worthless, is now more valuable than the gum, as it has become indispensable in the manufacture of fine toilet soaps.

One curious thing about the cultivation of camphor trees (according to H. G. Hubbard, special agent of the United States Department of Agriculture), is the important fact that it removes nothing from the soil! The gum is entirely the product of the gases of the atmosphere. If the leaves after the gum is removed are returned to the land, nothing is lost. On the contrary, there is a constant gain, and, as in a forest, the soil will grow richer year after year. An old camphor plantation, after it has covered the ground, will need no

fertilization. My trees are growing on the very poorest white sand, but they grow as if they were highly fertilized. The crop of leaves and twigs can be gathered at any season. They can be gathered from the trees after they are three years old and with actual benefit to the tree. The inside cuttings to such trees will weigh 100 to 150 pounds. In regard to the proper method of cultivation, Mr. Hubbard says: "For quick returns perhaps the hedge system is the best—that is to say trees three or four feet apart in hedge rows fifteen feet apart. For ordinary planting I would suggest plants fifteen feet apart in rows twenty feet apart, the intention being to keep the trees cut back to the size of eight or ten years. Planting in this method I think a plantation in the fourth season should return $300 to $400 per acre, with camphor gum at 40 cents a pound. The fifth season ought to double this return."

This is a better return than the average ever received by any orange grower. Camphor is often 75 cents a pound. The tree is propagated from the seed, which can now be procured from prominent seedsmen and perhaps from the Government. My plants were sent me from the Government gardens at Washington. The cuttings can be used if properly manipulated.

Every owner of a camphor plantation should have a distilling plant of his own, as the cost is slight and will soon pay for itself. Small growers should be able to send their product to large growers to be distilled. If camphor cultivation is largely entered into there will doubtless be built in several centers of production camphor distilleries for the convenience of small growers. I venture to predict that in ten years, if camphor is raised largely in Florida, its product will exceed that ever got from oranges.

Aside from its economical uses, the camphor tree is the most ornamental tree ever cultivated. Its beautiful shape is only equaled by the arbor vitæ. Its lower branches lie upon the ground, while the top forms a perfect cone. The leaves are a lovely pale, glassy green. The flowers are small but very pretty.

I came here the first week in April, against the protests of people who declared that it "must be hot in Florida now." Let me say that April is the pleasantest month in Florida. The range of the temperature is from 65 or 70° in the early morning to 75 or 80° at noon, and the nights are cool. Patients who rush away from Florida because there are a few hot days are very foolish, besides to go North in April is to undo all the good a Florida winter has done. E. M. HALE, M. D.

Enterprise, Fla., Apr. 16, 1897.

POST-SCARLATINAL DIPHTHERIA.

W. THORNTON PARKER, M. D.

Dear Doctor: I have read with much interest your article, "Post-Scarlatinal Diphtheria," in the May number of THE MEDICAL TIMES.

In one paragraph you state: "It has been claimed, and we have found it so in our own experience, that while we may have post scarlatinal diphtheria, we have never known of a case of post-diphtheritic scarlet fever." Having had last month a case of post-scarlatinal diphtheria, though never having seen or heard of one before in the thirty-two years of my professional experience, I am induced to mention this case to you. The case, F. B., æt. ten years, had an attack of diphtheria—a typical case; was convalescent in ten days (under calomel and nuclein treatment) and was quarantined for three weeks. At the beginning of third week of quarantine scarlet fever developed, followed by thorough desquamation. Query: How did he contract the scarlet fever while in quarantine?

Another thing I beg to mention—a fact not mentioned in the text-books, and scarcely alluded to by medical observers and writers—and that is, in cases of cutaneous erysipelas the attendants, if sleeping or closely confined in the apartment of the patient, are likely to contract diphtheria. In one case I had, the wife of the patient lay in the same bed and she contracted it. In another case a child slept in the bed with the mother ill with facial erysipelas and it contracted it. Personally, I contracted it while attending a patient with cutaneous (facial) erysipelas who had epileptic seizures requiring my protracted presence. In each of these cases the diphtheritic attacks occurred before the complete convalescence of the erysipelatous cases. So, in such cases, I now warn the attendants of the possible danger in advance. I have observed other cases than those above cited. Have you ever observed anything of the kind? Yours truly,

GEORGE D. STANTON, M. D.

Stonington, Conn., May 7, 1897.

SAW PALMETTO.

I am engaged in writing a complete monograph on *Sabal Serrutata* (Saw Palmetto). It will contain all the provings and clinical reports up to the date of its publication—about October 1, 1897. Any contributions will be honored by special mention of its author.

E. M. HALE, M. D.

65 Twenty-second Street, Chicago.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF MEDICINE.

Enterocolitis and Appendicitis.—M. Championnière, in a communication of great practical importance, demonstrated the complex etiology of appendicitis, viz., infection, foreign bodies and lithiasis of the intestine, enterocolitis, etc. He very justly insisted upon the intestinal complications and upon the complex facts of the association of typhlitis and perityphlitis, which proves that in the accidents grouped under the name of appendicitis, this latter is not all. Such are the observations reported not only by him but also by Reclus and Roux of Lausaune to the effect that removal of the appendix does not produce an immediate cure. Appendicular accidents are more frequent in cities than in the country, and in certain countries, America and Germany, than in France. This is not due to racial characteristics, but to alimentary hygiene, and appendicitis occurring in families is not due to hereditary appendicular malformation, but to defective alimentary hygiene. M. Championnière recalled the utility of intestinal evacuation in the threatened peritonitis after laparotomy. Opium, on the contrary, by the constipation it provokes, increases the accidents, and this rule applies to appendicitis. It also removes the necessity for surgical intervention, whose mortality is still very great, and which, in fat subjects, is apt to produce consecutive eventration. In subjects who have had appendicular attacks too rigorous confinement to bed is often more hurtful than useful. Appendicitis often occurs in active people who have previously been subjected to confinement accidentally.

M. Dieulafoy said that appendicitis, whose diagnosis is only too simple, is often mistaken. To-day appendicitis has become so prevalent that it is met with everywhere, and appendicitis are described as consecutive upon grip, eruptive fevers, amydalites, enterites and muco-membranous enterocolitis. In the great majority of cases, they are not appendicites at all but typhlites, an entirely different thing. There is a typhlitis, as there is also an enteritis and a colitis, and M. Dieulafoy still remains faithful, from a pathogenic point of view, to his theory of the toxic virulence of a closed cavity.

Treatment of Fractures of the Clavicle by Massage.—M. Championnière presented four patients with fractured clavicles for three weeks and more, which had never been made immovable. Daily massage had produced a callus that had formed rapidly, with very slight deformity. The pains disappeared rapidly, so much so, that from the first day the patient could use the hand slightly, and sometimes indeed his occupation was not interrupted. While regarding these results as very remarkable, M. Pean asked

if immobilization would not give a less voluminous callus, an interesting fact to women. M. Championnière had treated only two females by this method, and the æsthetic result was highly satisfactory, and again, fractures in men are much more frequent. The over-riding is very effectively combatted by massage, and the size of the callus is much diminished by time.

Surgery of the Nervous System.—M. Chipault made three communications treating of, first, the radical cure of the "mal perforant" by elongation of the plantar nerves; second, the lumbo-sacral puncture, whose diagnostic value is very great, by permitting bacteriological examination of the rachidian fluid, and whose therapeutic value gives much hope by substituting for the fluid removed an artificial or microbicide serum; third, the reduction, under chloroform, of the gibbosities of Potts' disease, an operation whose priority M. Chipault claims.

MEDICAL SOCIETY OF THE HOSPITALS.

Difficulties of Diagnosis of Appendicitis in the Hysterical.—M. Rendu: While hysteria may simulate various lesions, these may be unperceived in hysterical subjects. Reported case of a woman of nineteen years attacked with acute peritonitis, continual vomiting, general abdominal tenderness, temperature normal, general condition good. A swelling of the right iliac fossa suggested appendicitis; patient was chloroformed, and there was no more swelling; genital troubles indicated uterine currettage, which was done. Abdominal pains continued and more severe; the operation was performed and a non-ulcerated appendix, but affected with follicular appendicitis, was removed. From this time the accidents ceased, but the patient was affected with hysterical monoplegia of the right leg; there was then really appendicitis, but the painful symptoms were increased by hysteria. In the course of a year she had five or six attacks of peritonism, which were attributed to pure hysteria. Another woman of twenty-two years had epigastric pains with radiation around the umbilicus. She had a movable kidney, was seized with violent pain like a tearing in the epigastric region; there was hematemesis, small pulse, abdomen painful on the right without localization. Perforation of the stomach or duodenum was diagnosed; laparotomy revealed a turgid cœcal appendix, curved upon a thickened extremity and containing phosphatic calculi and mucus; amelioration began at once.

A New Tuberculine.—The *Deutsche Medicinishe Wochenschrift* has published a communication from Prof. Koch concerning new preparations of tuberculine, and it appears from this document that after the researches of many years he has succeeded in composing preparations of tuberculine that will insure immunity against the bacillus of tuberculosis. The following are some of the results obtained: In tuberculous guinea pigs treated with the new tuberculine, regressive transformations in the infected organs were demonstrated at the beginning of the treatment; and in persons in the first stage of phthisis, and in others affected with lupus, marked improvement was observed. In more than one case a cure was considered to be complete, but Prof. Koch thinks that it would be premature to employ the expression "cured" before a lapse of time sufficiently long without failure. The remedy is used by means of subcutaneous injections, in small doses at first, gradually increased in strength. It may be added that the new tuberculine is prepared by well-known manufacturers of chemical products, and has—notwithstanding celebrated failures in the annals of medicine—been introduced into commerce.

The Berlin savant, Prof. Koch, continues patiently his researches upon tubercular immunization. The tuberculine has been only partially checked, for its employment in veterinary medicine is still valuable and effective in the premonitory diagnosis of tubercle. By pushing to a greater extent his studies of the chemistry of the tubercular bacillus, he has this time really discovered the remedy for tuberculosis. By triturating very virulent cultures of the tubercular bacilli, and submitting them to centrifugal action, he succeeded in separating the fatty acids which enter into the composition of the tubercular bacilli, and which enabled him to fix the phenic "fuchsine" in a more stable form than with other bacilli. With the residue of the centrifugation, he obtains what he calls the residual tuberculine, which serves to prepare the liquids designed for immunization. These liquids, with glycerine in addition, when injected prudently under the skin every second day, and in progressively increasing doses, not only determine immunity, but the cure of tuberculosis, always upon the condition that the patient receives the treatment long enough, and that there are no pyogenic microbes associated with the tuberculosis, as in the last stages of pulmonary phthisis. Koch begins by injecting one dose of the one-five-hundredth of a milligramme of tuberculine, residual, and continues the injections up to 20 milligrammes. In order to discontinue the treatment it is necessary that this dose shall not provoke reaction. If the great bacteriologist has really discovered the remedy for tuberculosis, his marvelous scientific conquest cannot be too much applauded. But a shadow rests upon the glory of Prof. Koch, for his actual discovery dates from November, 1896, and before publishing it the Berlin savant had a special preparation already on public sale. This commercial side of the history of great discoveries is not in use among us in France. Pasteur did not practise it, and without underestimating the value of Prof. Koch's discovery, it proves that if France has not a monopoly of all the great scientific discoveries, her savants at least possess a noble disinterestedness. In her heart the love of humanity and of science leaves no place for interested calculations commercially considered.

Lycetol in Gout.—Lycetol or the tartrate of dimethylpiperazine has a remarkable efficacy in gout. Combined with a severe regimen, it prevents the painful attacks of chronic gout, and the experiments of M. de Tollenaere tend to prove its utility in the early stages of gout, chronic rheumatism and sciatica. It is also useful in certain cases of acute articular rheumatism in which the action of salicylate does not appear. In deforming arthritis its administration gives no result. It should be prescribed in a daily dose of 1 gramme 50 to 2 gr., accompanied with a glass of water each time, and its use may be prolonged for several weeks. At the end of twenty-four hours the lycetol produces a cessation of pain and abundant diuresis, and causes no gastric or renal trouble.

Emmenagogue Action of the Two Alkaloids Senecionine and Senecine Recalled by M. Sigaut.—These alkaloids are located in the subterranean parts of the plant—senecon—and give it its properties, which consist in the suppression of the excitability of the motor nerves, leaving intact the proper irritability of the muscle. Senecionine also diminishes the action of the heart. The extracts are good emmenagogues without being abortive in the normal dose, and may be given in the form of the dry extract—maximum dose, 2 gr., 50 in twenty-four hours. The exotic are not analogous to the indigenous senecon; certain Mexican kinds possess convulsive properties.

Laurenol, a New Antiseptic.—The impartial historian who would write the history of medicine in the ninteenth century, would say that at no time has as much been done for the relief of human suffering as in these later years. Science has never given so much to medicine, nor has medical investigation penetrated so profoundly. To cite only one science, chemistry, which every day promulgates bold combinations, creates new bodies, the properties of which it designates in advance, and the physician studies, tries, controls and finally catalogues, if he is satisfied, the new comer in his great book of the materia medica. Such is the simple history of Laurenol which has just been admitted, after passing the municipal laboratory, the micrographic laboratory of the City of Paris, and that of Dr. Latteux, the old chief of the histological laboratory of the Faculty. Experiments have been made with water saturated with putrefied blood. The number of colonies were about 80,000 per cubic centimetre, and after the addition of one cubic centimetre of Laurenol the number was 0. The experiments made by Dr. Latteux were upon the following kinds: The pyogeneus aureus, anthrax bacillus, bacillus coli communis and microbes of the air. Sterilization of cultures by Laurenol were obtained 2 and 3 per cent. A substance which presents such properties cannot re-

main long without medical application. The first dressings, made with the solution of 3 per cent., rapidly modified purulent secretions, and gave such activity to cicatrization that the trials were multiplied. Many cases of acute and chronic metritis were successfully treated, and the odor of the secretions disappeared after the third injection.

When compared with the dangerous phenic and corrosive sublimate solutions, the superiority of Laurenol should regulate the sale of the former.

Medical Treatment and Operative Indications of Appendicitis in Children.—M. Moizard believes it is necessary to keep appendicitis and typhlitis side by side in pathology, and to establish a differential diagnosis between them. Typhlitis begins slowly and progressively, and the general condition of the patient is less grave than in appendicitis. This diagnosis is indispensable for the treatment to be adopted. In certain cases of typhlitis, evacuating medication will yield good results. In appendicitis it should be avoided. In ordinary forms, exception being made of the subacute form with perforation, in which immediate laparotomy is demanded, appendicitis may be benefited by medical treatment. M. Moizard proscribes purgatives absolutely, but advises the administration of opium in the form of thebaic extract in small doses, associated with benzo-naphthol and the salicylate of bismuth. The application of leeches will soothe the local pain, but they sometimes cause hemorrhage; local applications of ice with diet and absolute rest. The opium should be given for two or three days, at the end of which time the patient may be gently nourished; baths and simple laxatives also taken. Rest in bed for a month indispensable, if a second or third attack should supervene operate at once. M. Hayem asked if he had observed anterior gastro intestinal troubles in children affected with appendicitis. M. Moizard had very often observed them. M. Du Castel had seen pseudo-gastralgic attacks precede appendicitis. His preceptor, M. Vidal, who had been attacked by the disease, had observed the same. M. Legendre, too, had the same experience of spurious gastralgiæ. M. Siredey believes there are two kinds of appendicitis, viz, appendicitis occurring in persons who had been previously affected with intestinal troubles, and that form in which the patient is suddenly seized in full health by a veritably infectious disease.

Accidents Due to Röntgen Rays.—M. Lannelougue related two cases in which the rays had produced violent inflammations of the skin. In one there was abscess, in the other a scar. Crookes' tube, used in the two cases, was twenty centimetres distant from the subjects. It is possible that the inflammations were purely chemical, without any bacterial influence. Unfortunately no bacteriological examination was made. M. Crookes remarked that the action of the rays varies very much in different individuals. He himself exposed his hands for hours without inconvenience, while others could not be exposed for a few moments without experiencing burning sensations.

Treatment of Hypertrophy of the Prostate.—M. Guepin communicated a number of observations which induced the conclusion that castration, excision of the vasa deferentia and rectal cauterization are most generally useless methods in the treatment of hypertrophy of the prostate, and that what are called simple measures nearly always suffice to produce relief of the trouble. Prostatic compression, called massage of the prostate, is particularly to be recommended.

Intestinal Sand.—M. Mathien presented a specimen of sand taken from a patient who was simply constipated, and had no muco membranous enteritis. Then this form of enteritis may not be considered as necessary to the production of intestinal sand; further researches upon this question have yet to be made. It may be noted, however, that the patient had experienced acute pains in the colon, a sort of appendicular colic, and it may be asked if there was not appendicitis. In any case, the presence of the sand, in view of its fineness, was connected with the intestine, and there was no analogy with hepatic or nephitic colic.

Difficulties of Speech Among Hemiplegics.—M. Marie has observed that in from 80 to 100 *left* hemiplegics there were difficulties of speech. True, there was no absolute aphasia, but rather an imperfection of articulation. At the same time troubles of deglutition and abolition of the pharyngeal reflex were more frequently found in the left than in the right hemiplegia. The right hemisphere then appears to preside over the movements of speech and deglutition.

Diagnostic and Prognostic Facts Furnished by the Quantity of Urea in Perityphlitis.—M. Reveillod, of Geneva: While so much attention is being given to appendicitis, it may be said that perityphlitis always exists and presents various clinical signs long known. Its diagnosis is, however, difficult, for this disease may easily be confounded with other lesions attacking the abdominal viscera. It is only neccssary to cite perinephritic phlegmon, hepatic and nephritic colic, caries of the pelvis, psoitis and various affections involving the annexæ of the uterus. But, says M. Reveillod, I believe that I have discovered a sign which admits of diagnostic precision, and which seems to me to be pathognomonic. It is, in perityphlitis, an increase in the quantity of urea emitted in twenty-four hours. I have recognized this fact for twenty years, and have verified it in 115 cases, of which 44 were minutely followed. Instead of a daily mean of 20 grammes of urea, 40 to 50 were ordinarily found, running up sometimes to 70 or 80 grammes. This was independent of alimentation, for the same occurred in patients subjected to diet. In all similar affections of extra-peritoneal locality, the urea keeps up to the figure of twenty grammes. The cause of this fact seems to reside in the difference of the peritoneal circulation—portal system—and that of the extra-peritoneal organs—cavæ system. In the first case the urea produced by the phlegmasia is added to that which the liver normally produces, and this hypothesis I have verified in the laboratory. This sign has an equally prognostic value, for it disappears the moment the phlegmasia ceases, and in it the surgeon will find a valuable indication for surgical interference.

M. Galliard: M. Reveillod has seen so many cases of perityphlitis that perhaps he can give us some statistical results. M. Debore: I would also ask if the mortality has varied since appendicitis became a surgical disease. M. Reveillod: I have not at present statistical records, but would say at once, I don't allow myself to be frightened by surgeons. I continue the old treatment, and find it good, and in the 115 cases mentioned, there were only seven deaths, which occurred in patients coming late to the hospital. I employ leeches largely, mercurial ointment, absolute rest in bed and diet; have never had recourse to surgery except in cases of suppuration. I have seen patients who have been operated upon in whom perityphlitic accidents ensued; as respects recurrences, the more frequent they are, the more they lose their intensity. The appendix becomes thickened by successive attacks. Operations often leave effects behind them, constipation, pain, diminution of peristaltic action. On the other hand, patients are cured without them and do well. Moreover, perforation may be cured spontaneously.

Prolonged Artificial Sleep.—According to Dr. Otto Wetterstrand, of Stockholm, and in opposition to the opinion of many hypnologists, the treatment of hysteria and many other diseases by prolonged artificial sleep responds to many marked indications. In the forms of hysteria characterized especially by psychic troubles, profound sleep is particularly beneficial, and the more uninterrupted it is for days or even weeks the greater its efficacy to the patient. It is not necessary to awaken the patient for nourishment or his different wants, all his acts are automatically accomplished during sleep. He should never be left alone, but always attended by a sympathetic and experienced nurse. He experiences no inconvenience during sleep; on the contrary, he enjoys a sensation of profound repose, as easily observed by his appearance and the expression of his face. On awakening the patient sometimes has a sensation of confusion which is easily dissipated by persuasion, and disappears of itself in a few hours.

Besides grave forms of hysteria, this treatment has succeeded well in violent convulsive attacks accompanied

with crises of mania and hallucination, in morphine mania, in uncontrollable vomiting, not of pregnancy, in a paraplegia of twenty-five years' standing. It is not necessary to repeat more of the advantages of prolonged artificial sleep. Its curative action is indubitable and it is a method whose least merit is that of being absolutely harmless.

BIOLOGICAL SOCIETY.

M. Gerard, of Toulouse, presented a communication upon slow poisoning by the subnitrate of bismuth. In certain cases it produces a transformation of the subnitrate in those dyspeptics whose stomachs contain too much lactic acid. MM. Renou and Lacaille investigated by radiography a case of thoracic disease which was supposed to be a suppuration of ganglionic origin, but the cause was revealed as an arteritis of the left subclarian artery. M. Josue analyzed the hystological modification of the osseous medulla under the influences of the injections of antistreptococcic serum.

Real and Apparent Death.—M. S. Icard says: Among the immediate signs of death, rhythmic tractions of the tongue, by M. Laborde's method, offer great interest, but he considers it more as a process of treatment than a diagnosis. The sign of Bouchert, repeated by Bourneville, of the thermometer, is an excellent method, but not suited to all cases or climates. M. Icard reports numerous personal experiences, and affirms that the true sign of death is in the prolonged arrest of the circulation, and not of the heart, and as absorption is synonymous with circulation he proposes to inject into the subcutaneous tissue or the veins colored solutions easily observed in the integuments, the eye, urine or blood. The substances suggested by him are fluoresceine, the iodides, ferrocy anurets, the salts of lithine, volatile substances, etc. He gives the preference to fluoresceine, which produces the coloration in doses sufficiently weak to be absolutely harmless. M. Icard is convinced by numerous experiments that Laborde's process of rhythmic lingual traction often succeeds where all others fail, and considers it the best now in use; he reviewed insufflation, artificial respiration, electrization, etc.

SURGICAL SOCIETY.

Treatment of Coxalgia by Curettage and Injections.—M. Menard obtained a cure of closed abscess by the method of injections in 88 cases out of 105. In other cases arthrotomy and curettage were resorted to. Arthrotomy may be practised before or behind, according to the seat of the abscess, with whatever resection of the head and neck of the femur may be necessary to completely curette the diseased parts. If the curettage is thorough, the wound may be reunited without drainage.

J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

The Significance of Gesture in Disease.—*The National Board of Health Magazine* discusses this subject as follows:

When you ask a patient to locate his pain, he does so by a movement of one or both his hands. The gesture, however, not only indicates its seat, but describes its character and distribution. This is an all-important point. If the pain is widely distributed over the whole chest, the patient locates it with a circular rubbing motion of the palm of the hand, indicating the diffused soreness.

The pain of a serous inflammation, on the other hand, is described by first drawing the hand away from the body and then, with the fingers close together or with the index finger extended and the others flexed, cautiously approaching the seat of the inflammation.

In appendicitis the patient does not touch the skin at all when asked to locate the pain. He simply holds the palm of his hand over the diseased area.

With very violent abdominal pains which are not inflammatory, the patient slaps himself vigorously across the abdomen on being asked to indicate the location of his trouble.

If a child refers a persistent pain to the stomach, and there is no tenderness on pressure, disease of the spine is indicated.

In hip-joint disease the pain will be referred to a point inside the knee.

With terrific diffused pain in the leg not due to an inflammation, the patient grasps the leg firmly. If it is a darting or lancinating pain he will indicate it with one finger.

In the pain caused by the descent of renal calculi and gall-stones, he follows their course with the top of the thumb or index finger.

The pain of hepatic neuralgia or "shingles" is indicated with the thumb or finger.

In joint pains the patient approaches the seat of trouble very cautiously, with the hand spread flat.

The degenerative pain of locomotor ataxia is described by grasping the affected area firmly, indicating a band-like pain. Or, if the pain is sharp and lightning-like in the leg, the pain gesture is perfectly descriptive, an energetic downward motion, at the same time twisting the hand as though manipulating a corkscrew.

A patient will indicate the seat of a severe syphilitic headache by hammering with the tips of his fingers.

A patient complained of a severe headache. "In what part of the head is it?" he was asked. "The vertex," he replied. On being asked to indicate the exact spot, he placed his finger on the parietal eminence. This he did three times in succession, though claiming to feel the pain exactly on the top. Upon examining the mouth a defective tooth was found. As soon as it was removed the pain disappeared.

***Inflammation of Veins, and Varix in Pregnancy and the Puerperal State.**—By Thos. H. Manley, M. D., Professor of Surgery, at the New York School of Clinical Medicine. The altered condition of the blood in pregnancy, its increased volume, its hyperplasticity and irritating qualities in many females in this condition, and the singular susceptibility of the veins to take on inflammation after parturition, are large systemic factors in the pathology of varix, not only in the lower limbs, but in the hæmorrhoidal vessels, and probably those of the uterus and its annexa. We often find evidence of profound hæmic changes in the circulation of the kidneys and other organs during the pregnant state. Whether it be that the formation of urea is in excess of that in the normal state, or its elimination is imperfectly carried on, is not yet definitely determined. But, in any event, there is some description of an irritating element which greatly augment its tendency to inflammation in the presence of an inpediment to its free movement or localized areas of turgescence.

This disorded condition of the blood is, no doubt, the first or initial factor in puerperal *phlebitis*.

Phlebitis.—An inflammation of a vein is the first step in that process which, after turgesense, leads to the diseased state of a vein, the seat of varix.

Primary changes begin in the endothelial layer, which in places becomes eroded or detached; consecutively the muscular, elastic tunics and adventitia are involved. Hyperplasia, primarily, only includes certain sets or areas of vessels, the deeper or subaponeurotic vessels being first involved. They lose their elasticity, become thickened and indurated, gradually the smooth muscle-elements undergo a fibrous transformation, lose the power of contraction and permit of great expansion or even rupture of the middle tunic, with localized sacculations or venous walls, which impart to the finger a sensation not unlike a hæmatoma.

The progress of phlebitis, its earlier stages, is very insidious when it is non-traumatic and non-puerperal. Except under aggravated circumstances, there is no pain nor special inconvenience, although when fresh attacks are provoked by overstrain or long standing painful exacerbations are not uncommon.

It is only when phlebitis is propagated to the subcutaneous vessels that we find marked œdema and other patho-

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*Abstract from Essay read by title at the Pan-American Medical Congress in Mexico in October, 1896.

logic changes which suggest peripheral complications or degenerative changes in contiguous parts.

The morbid anatomy in many types of varix is exceedingly complex. In certain undeveloped cases the structural changes are not great, though uniform, while in others the most infinite variety of degenerative alteration may be met with. In a single instance, in a middle-aged woman, I have found an area with one of the larger tributaries of the internal saphenous completely obliterated; another choked up by coagulated blood; another was widely distended by a colloid tarry material.

In the saphena itself, in some patches, the vessel's wall had been entirely resorbed and but a thin instrument of the wasted integument covered in the vessel. Other parts of the wall higher up had greatly thickened by compensatory hypertrophy; and was as hard as cartilage, and besides from the point where the superficial plexus of the knee entered, up to the saphenous opening, the vessel was blocked here and there by variously shaped deposits of calcareous plates, lying between the inner and middle coats. In this case the greater part of the diseased area with the entire internal saphenous was dissected out for radical relief; the result being very satisfactory.

Inflammatory changes played a double rôle in the evolution and pathology of varix. Primarily, in leading to a weakening and dilation of the walls, a sacculating, convoluting or even obliterating of the minor tributaries, and secondarily, by giving rise to fresh complications.

If we will examine the ano-rectal outlet to the large intestine we will observe that a turgescent, dilated state of the hæmorrhoidal veins is met with in many who have never suffered any serious inconvenience from them. We may note the same in varix of the pampiniform plexus of the scrotum. Many have sacral, crural or popliteal varix of considerable volume, who are scarcely conscious of its presence until, through physiological conditions, a disordered condition of the general system, certain occupations, injuries or senile changes *inflammation* manifests itself.

Now we find evidence of participation of the adjacent cellular tissue and the contiguous structures, when severe pain, heat or pruritus is felt for the first time.

Secondary or Consecutive Inflammation in the Varicose State.—It is a matter of general observation that an organ or structure the seat of such advanced inflammatory action as to induce structural changes is always thereafter prone to repeated attacks of the same character on moderate provocation.

In the evolution of varix, although several of the cardinal clinical features of typical inflammation are absent, it is fair to assume that its influence and effects are present. Degenerative changes advance to a certain limit, when something in the nature of a spontaneous arrest follows.

As far as the veins are concerned, the vessels remain in *statu quo* over varying intervals of months, years or even one's lifetime. The subject of varix, provided his habits are regular, his diet wholesome, occupation easy and exercise moderate, may go on indefinitely without discomfort.

Nevertheless, he has an infirmity liable at any time, by any indiscretion, to invalid him.

With those whose occupations entail long standing or much walking, trouble is bound to come sooner or later. Since the advent of the bicycle craze latent varix in riders has been greatly accelerated in its evolution, and consecutive effects, through the violent strains and wrenches of the limbs sometimes necessary to preserve bodily equipoise or in making great effort.

Now, for the first time, the individual is conscious of a sense of weakness, lameness, a dull, deep pain with localized areas of surface anæsthesia. The vessels are deeply engorged and unable to readily discharge their contents. This may involve a plexus only, as those of the profunda femoris, which course in great numbers along the upper segment of the great sciatic nerve after it leaves the pelvis, the poplitial recurrent vessels; and what is most common, the greater intensity of pathologic action falls on the most dependent and exposed internal and external saphena; in fact, it is in those areas where we witness the most pronounced and decisive degenerative effects of consecutive phlebitis.

Fortunately for the afflicted it is very rare that more than one limb becomes involved.

In very chronic aggravated cases of chronic varix all the structures of the leg suffer from the resulting malnutrition, long continued asphyxia, a species of local starvation of all the structures. During the day congestion and stasis induce a transudation into the connective tissues, with impediment to muscular action and great discomfort; but with night and an interval of bodily rest a truce is secured so that by morning it is surprising to note its beneficent effects on the tissues. In this class of cases the attacks of phlebitis are recurrent and periodical, there being intervals of comparative recovery. But through inability to secure the necessary means of prophylaxis, or the relentless demands of necessity, the aggravating conditions continue with frequent relapses; the most agonizing and persistent always in the summer months, when the cutaneous functions are most active.

Some of the Local Complications in Phlebitic Varix.—It has been noted in the anatomy of the veins of the leg that the greater part of the residual blood of the limb is conveyed upward in large vessels, which lie between the dense fascia and the integument. In the male these vessels stand well out, and can be readily delineated, but in the female a thick layer of fat is superimposed over the aponeurotic envelope, of such density as to quite obscure the vessels. Through this the smaller veins of the skin pass to reach larger tributaries of the internal saphenous.

These vessels are evidently the first to suffer in chronic varix; their lumina becoming thrombosed or sealed by *phlebitis obliterans*. A low grade of dermatitis insidiously follows, with complete destruction of localized areas of the sebaceous and sudoriporous glands, and an atrophy of the skin. In places, especially over the larger veins, all the histological elements having disappeared, except a thin stratum of fibrous tissue and the overlying wasted derma. We will therefore find the skin here dry, glossy and brittle, with a resulting feeble vitality.

In the varicose condition the intensity of pathologic change falls on the integument, the muscles preserving their integrity with singular tenacity. Dermatitis, scleroderma, pigmentation of the cutis, eczema, pruritis, infection with ulcers, erosion and hæmorrhage contribute to form the clinical picture of the more ordinary sequellæ to saphneous varix in its chronic stages.

Hæmorrhage from the rupture of a vein may lead to serious consequences; for example, Robin has recorded a fatal rupture of the vena cava in a sparring match. The vessel was found opened over the fourth lumbar vertebra.

Annisat, in writing of hæmorrhage varix, declared that varicose dilatation is, properly speaking, only a secondary symptom united to a special varicose condition, involving the deep veins and all the valves, so that when one of these vessels rupture the blood flows in both directions and may lead to mortal syncope (*La Lemaine Med.*, March 12, 1890).

Hæmorrhage from œsophegeal, rectal, pelvic or saphenous varix undergoing transient intense inflammation may be salutary in its effects when moderate in quantity in a robust individual, but if a large trunk opens in an anæmic person, the loss may entail serious consequences.

Venous thrombi in diseased conditions of the vessels are unquestionably a most prolific source of pathologic changes in organs remote from the lesion.

A small clot may be displaced and sent into a larger trunk, then to be carried up by the blood current, and is found engaged in the lungs or liver. These emboli are forced through the pulmonary artery, producing infarcts of the lung, blocking up whole vascular territories and threatening large areas of pulmonary tissue until the collateral circuit comes to their rescue. Emboli from any of the portal tributaries may engage in the liver and give rise to grave consequences.

Dupuytren has reported a case of death following an excision of hæmorrhoidal tumors when the primary radicles of the portal vein in the liver were found occluded by several emboli carried up through the vessels from below.

In operations for the excision of hæmorrhoidal veins we almost invariably find large areas of vessels stuffed by coagulated blood or partly decomposed clots.

Trichloracetic Acid.—There is no remedy in the entire materia medica (*Therapeutic Gazette*) that is so useful in the treatment of all nose and throat troubles as trichloracetic acid. Dr. Stein, of Moscow, says that in solution of from 1-to-500 to 1-to-2000, it will keep all suppurative processes in abeyance for a week. In weak solution it is one of the best antiseptic remedies that the writer has ever employed, and it also causes stimulation to atrophic membrane to a greater extent than any other application with which the writer is acquainted. Dr. Stein says: "Weak solutions of trichloracetic acid used in the nose in simple atrophic rhinitis for a considerable time, sometimes produce such a decided hypertrophy of the turbinated membranes that it may become necessary to cauterize them in order to secure free breathing. No other medicine of which the writer is cognizant produces such a remarkable effect, and thus this agent is particularly applicable in the treatment of ozena. In true ozena he now applies stronger solutions than he did at first, *i. e*, ½ to 10 per cent. The odor is not so quickly nor so thoroughly abolished by any other medicinal agent as by the acid. Here it is certainly a specific."

Considerations with Regard to Cough.— Dr. Robert H. Babcock, in concluding a most instructive article on "Some Considerations with Regard to Cough," in the March number of *Medicine* says:

Although the first principle of correct treatment is the removal of the cause where possible, there are cases in which this cannot be done, notably in heart disease and pulmonary tuberculosis. In such, if the cough be allowed to go on unchecked, it may not only exhaust the patient, but often aggravate the existing malady. Under such circumstances it is advisable to administer a sedative, and nothing has yielded such satisfactory results in my hands as phosphate of codeine in half-grain or grain doses by the mouth. In administering any form of sedative to quiet cough, one should remember that this means the deadening of the patient's sensibility to the presence of secretions in the air tubes, as well as the sensibility of his respiratory center. Therefore, in case of extensive bronchitis in the small tubes the obtunding of the patient's sensibility may permit a dangerous accumulation of bronchial mucus; the bronchioles may become so much occluded as to greatly interfere with oxygenation of the blood. In feeble patients with hypostatic congestion the administration of a sedative often requires great caution and judgment. In the last stages of consumption the patients are often robbed of sleep and exhausted by the frequency of their cough. In such cases codeine is by far the best remedy at our command; yet in its employment one should remember that the fever and other symptoms of sepsis may be intensified by the retention of the sputa.

Codeine is preferable to morphine or crude opium, because it rarely disturbs appetite or digestion, and is generally free from their unpleasant after effects. The phosphate of codeine is preferable to the sulphate, because containing a larger percentage of the base, besides being readily soluble and suitable for hyperdermic administration. In cases of *la grippe* with frequent paroxysmal cough I have employed Wyeth's hypodermic tablets of codeine phosphate, and been greatly pleased with this mode of administration. Quite recently in several cases in which dry spasmodic and prolonged cough called for a sedative and antispasmodic remedy I have obtained quite brilliant results from bromoform combined with gelsemium as follows: Bromoform, 7.5 Gm.; tincture gelsemium, 8 Gm.; syrup of lactucarium, to make 65 Gm.; powdered gum arabic, a sufficient quantity. A teaspoonful three or four times a day was the dose prescribed. One female patient with pulmonary tuberculosis, who was unable to sleep because of harassing cough without expectoration, was instructed to take a teaspoonful of this prescription, and repeat in half an hour if necessary. The remedy did not prove very efficient, and to my horror the patient reported the next day that she had taken almost the entire quantity during the night, although apparently without injurious consequences. In another case, in which severe and almost incessant coughing due to acute bronchitis threatened to break down the heart, already greatly enfeebled from mitrol and aortic disease, the following prescription accomplished the very happiest results:

℞	Bromoform.....	7.5 Gm. 3 iss.
	Codeine phosphate.....	1.0 grs. xv.
	Compound syrup of squills.....	10.0 ʒ iiss.
	Syrup of lactucarium.....to make	130.0 ℥ iiiss.
	Powered gum arabic.....	q. s.

M. et fiat emuls. Sig.: Two teaspoons every two hours.

In the very early stage of an acute bronchitis with substernal soreness, squills is inadmissible, and the hive syrup of this formula had better be replaced by syrup of ipecac or a minute amount of tartar emetic.

We have tried this combination in cases that resisted everything else with satisfactory results. The dose is too large for sensitive patients, and it is better to begin with half the quantity, increasing gradually.

Dr. Reynold W. Wilcox says in *Pediatrics* for May, 1896: "That asaprol (ἀ, privative, and σαπρός, putrid) was named by Dujardin-Beaumetz and first prepared by Bang. If sulphuric acid acts upon absolutely pure *B*-naphtol, two acid mono-sulphonates are formed, and the α-monosulphonate is soluble in cold water; of this asaprol is the calcium salt. It is a whitish, neutral powder, soluble in one and one-half parts of distilled water and in about three parts of alcohol. The first taste is bitterish, but this soon disappears, and the final taste is sweetish. It is incompatible with all salts which precipate lime and with potassium iodide. It is unirritating and is excreted by the urine without producing any untoward symptoms. Stackler, in his report from the bacteriological laboratory, finds that it is a reliable antiseptic. Clinically it has been found to be an antipyretic, possessing also analgesic properties. It has been employed for the reduction of temperature, and in the treatment of various infectious diseases, not omitting epidemic influenza and rheumatism of various kinds, and for fermentation in the gastro-intestinal tract.

"It has been given to children in age from ten days to twelve years, in daily doses of from 5 five to 45 grains, in solution, without giving rise to headache, vertigo, tinnitus, nausea or vomiting; it is easily borne by the little patients. Of the febrile diseases, malaria, acute tuberculosis and broncho-pneumonia have been treated. The temperature in malaria rapidly falls, the skin is covered with perspiration, the liver and spleen become smaller, the digestive disturbances improve and the patient becomes calm and sleeps better. Topical applications have been employed for cutaneous diseases, those of the ear, nasal fossæ and throat, for vulvo-vaginitis and to secure intestinal antisepsis. As a local application it can be employed as a 1 per cent. aqueous solution, or with lanoline or vaseline. In whooping cough as a 1 per cent. spray, repeated several times daily, to the periglottic region, the speedy disappearance of the disease has resulted Not only are the results excellent in both malaria and whooping cough, but one patient who suffered from the former disease, and as well from cholera, was completely cured of both diseases, this being the only drug employed."

The Use of the Rontgen Rays in the Diagnosis of Arterio-Sclerosis.— Hoppe-Seyler (*M. Med. Woch*) details the results of two attempts to make use of the Röntgen rays in the diagnosis of arterio-sclerosis. First photographed a leg amputated for fibro-sarcoma. The result not only revealed an old fracture, which could not be localized before amputation by the ordinary means, but showed also the anterior and posterior tibeal arterles indicating irregularities in outline and variations in thickness, due to the variations in the development of the atheromatous process. He then photographed the hand of a man, the subject of marked arterio-sclerosis, and could readily distinguish in the picture narrow bands running alongside and between the metacarpal bones, indicating the artheromatous arteries. The pulsation in living vessels, will, of course, interfere with securing very good pictures, still one may hope that with perfection of technique he will be enabled to diagnose arterio-sclerosis of deeper structures—the aorta, for instance.

MISCELLANY.

—It is said that Japan has more thermal springs than any other country.

—Dr. Golokow says he has found the cholera germ in the interior of eggs.

—In Antwerp nearly 4,000 horses were slaughtered last year for human consumption.

—Salicylic acid (*Cin. Lan. & Clin.*) in large doses may give the urine a greenish tinge.

—The appearance of labial herpes (*Cin. Lan. & Clin.*) is a favorable sign in pneumonia.

—The bill granting opticians the right to examine eyes for glasses was passed by the Legislature.

—We must not take the faults of our youth into old age, for old age brings with it its own defects.

—A stab wound of the heart has been sewed up by Dr. Rehe, of Frankfort, and the patient recovered.

—Diphtheria is rare in sucklings (*Cin. Lan. & Clin.*), owing, it is stated, to the anti-toxic properties of women's milk.

—Ammoniacal breath (*Cin. Lan. & Clin.*) in the subjects of Bright's disease is a forewarning of uremic attacks.

—Sodium phosphate, suitable diet and horse back riding, has been suggested as the best treatment of cholelithiasis.

—A statue of the late Prof. Samuel D. Gross has been unveiled in the grounds of the Smithsonian Institute at Washington.

—Strychnine (*Med. Summary*) is on the whole the most valuable remedy for enuresis, along with regulation of diet and habits.

—The wine of colchium root (*Cin. Lan. & Clin.*), 5 to 10 minims three times a day, has given much relief in obstinate cases of sciatica.

—A Society of "Digestive Specialists" is to be organized June 3, 1897, at Philadelphia, and we extend our hearty sympathy in the undertaking.

—An excellent application in swollen testicles is a thick paste of subnitrate of bismuth. Under its influence the pain, burning, and swelling rapidly disappear.

—A simple and effective treatment for itching piles is said to be (*Med. Age*) the application once daily after defecation of a few drops of collodion on absorbent cotton.

—Physicians and midwives are to be paid a fee of 25 cents each for reporting births, and clergymen and magistrates a similar fee for reporting marriages to local boards of health in this State.

—A freak bill (*Atlantic Med. Weekly*) is before the Colorado Senate that guarantees to every citizen the right to select as medical attendant any person he chooses, and permits him to pay the man of his choice. The Osteopaths and Christian Scientists have fathered it.

—Camphor internally (*Cin. Lan. & Clin*), in three-grain doses thrice daily is said to exert a remarkable anti-galactic effect, and hence is of great use when it is desired for any reason to bring about suppression of the milk.

—In more than a hundred cases of scarlatina seen in the course of six years, in which the patients were for three weeks kept upon milk diet, Ziegler (*La Semaine Méd.*) has not once encountered nephritis as a complication.

—A bill to substitute castration for the usual punishment of rape has been favorably acted on by committees of both houses of the Kansas Legislature, with the assurance of the Governor if it passes it shall receive his signature.

Dr. Wm. I. Morton, of this city, has the largest radiograph ever made. The negative is a life-size picture of a woman, 5 feet 4 inches high, and shows the framework of bones in the body with all the joints as well as tampons and metallic trimmings.

—The bill to suppress the abuse of medical charity in this State, passed the Legislature, and the State Board of Charities was to formulate regulations to govern all dispensaries offering free service, but Gov. Black vetoed it.

—In cold climates (Maryland *Med. Jour.*) washing is out of the question. Dr. Nansen's party used to scrape the dirt off. The Esquimaux preserve the urine secreted by the members of the establishment and use that for all purposes of domestic and personal cleanliness.

—Before the Operation—"Er—I suppose, Doctor, there is some chance of saving him?"

"Absolutely none; he will die whether operated upon or not."

"Well, what are you doing it for then?"

"For $350."—*Life.*

—As a result (*Charlotte Med. Jour.*) of an examination of several liquid extracts of malt on the market, Edgar L. Patch, of Boston, says that not one of these had a particle of diastasic power. They contained from 3 to 10 per cent. of alcohol, but it is not reasonable to believe that they are of any more value than pure beer, or some preparation of extract of malt and alcohol.

—The Board of Charities has reached a decision in the case of Morgue Keeper Albert M. White, who was tried by the board three weeks ago on a charge preferred on December 5, 1896, that he had illegally disposed of bodies committed to his care. The members of the board are unanimous in the decision that White is guilty as charged, and they have dismissed him from his position.

—One of the most pernicious practices prevailing in this country, says the *Modern Medicine*, and, to a large extent, in all civilized countries, is the habit of medicine-taking. Many people are addicted to the habit of swallowing a drug of some sort for the relief of every physical discomfort which they may happen to experience, without any attempt to remove the cause of the disorder by correcting faulty habits of life.

—Quacks, in Germany (*Atlantic Med. Weekly*), are treated in a most effective manner. Recently one of these "curers" was found guilty of selling nostrums for all diseases, and prognosticating marvelous cures. He was sentenced to four years' imprisonment, a fine of $750, and his rights of citizenship were suspended for five years. If we had such laws in this country to deal with this class of "humbugs," it might serve to protect both the community at large and the profession.

—The advantages accruing to the modern trained nurse from a familiarity with technical medical terms (*Boston M. and S. Journal*) are shown by the recent remark of a nurse in attendance upon a man suffering from vesical retention. The patient had for some days been obliged to make several futile attempts in each case before accomplishing the function of micturition. Finally relief came, and the nurse saluted the doctor at his morning visit with the cheerful words: "He passed water to-day *by the first intention*."

—The latest treatment of burns, says the *American Med. Surg. Bulletin*, of the first and second degree consists of the application of ichthyol. It is said to be very efficacious in alleviating pain, reducing edema and promoting healing. It is applied dry—one part ichthyol to two parts oxid of zinc or boric acid, the powder being spread evenly over the surface; if there is any reason why the dry dressing is objectionable, one may order it in ointment (10 to 30 per cent.), or in combination of the two methods.—*M. and S. Reporter.*

—M. Gilles de la Tourette (*Med. Press & Circular*), says that in the treatment of locomotor ataxia by suspension the spinal marrow is not elongated in any appreciable manner. On the contrary, forced flexion of the vertebral column produces a considerable amount of stretching, which singularly benefits patients. The writer constructed a special apparatus to effect this flexion without any danger, and operated on forty-five patients, of whom eight were women; they were all in the second stage of the malady. Twenty-two of these were considerably improved in all their symptoms, while fifteen experienced only temporary relief, and the remaining ten none whatever.

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M. D., LL. D.,
New York.

Part IV.—General Therapeutics.

a. Justice to Medical benefactors.
b. Medical and Surgical Colleges of the Future.
c. Restoration of Ancient Systems and Medicine in Improved Forms and Applications.

> *"If there be a crime*
> *Of deeper die than all the guilty train*
> *Of human vices, 'tis ingratitude."*

UNGRATEFUL EXPRESSIONS ABOUT OUR BENEFACTORS.

DR. SAMUEL JOHNSON was present at a large tea party, when Master M., who had been plaguing several of the guests, said to his mother that he would be good if she would give him an apple.

"My dear child," said the parent, feeling herself in the presence of a great moralist, "you ought not to be good on any consideration of gain, for 'virtue is its own reward.' You ought to be good disinterestedly and without thinking what you are to get for it."

"Madame," said Dr. Johnson, "you are a fool; would you have the boy *good for nothing?*"

This aptly applies to recent utterances of persons whose peculiar interpretation of medical morality makes no distinction between dishonorable practice and common justice.

Some selfishly demand that the results of the most laborious work of men of brains and originality shall be freely given for the use and profit of physicians without other compensation than honorable mention; and even this empty honor is often rendered only under the compulsion of public opinion. In the words of Sam Johnson, such fastidious moralists insist that human benefactors shall be *good* for *nothing!*

For many years scores of able, painstaking and indefatigable scientists in Europe have given their best energies for the advancement of medical knowledge. In some cases these men have resigned lucrative practice in order to devote mind, heart and soul wholly to their noble vocation.

Of these, one to whom the world already owes a debt of perpetual gratitude, has recently offered to the profession a new tuberculin. He has clearly and minutely explained every step in its preparation; and he very properly proposes, instead of permitting Tom, Dick and Harry to destroy its usefulness and his own good name, that it shall be correctly prepared under his personal supervision by certain eminent chemists. For this grievous sin these medical pharisees cry out in holy horror: "Koch & Co." Surely there must be a Zulu in the jungle!

Possibly some extensive drug and serum producers are not averse to continue reaping as great profits, as they have in the past from medical brains which are seldom if ever paid for; except, perhaps, by an occasional unremunerative "*thank you.*" What wonder is it that they and their satellites are deeply offended and morally shocked when one of the ablest medical men of the age presumes to ask for a slice of his own bread. For this heinous crime they infamously endeavor to associate his glorious name with the lowest of patent medicine vendors.

After what Pasteur, Koch, Behring and the forgotten isopaths have done for us we should hiss down such surly thanklessness, and teach these cavillers that such "ingratitude is treason to mankind."

If our desire to benefit the sick is earnest and this new tuberculin is proved to be valuable, let medical men unite to persuade the central Government at Washington, or their individual States, to award several hundred thousand dollars to Koch for the free use of his tuberculin for the benefit of Americans who are too poor to pay for it.

Why should we permit our sick to depend upon the almost boundless charity of the German empire, which so generously rewards brains to sustain science, while our own Government does comparatively little for science or art?

COLLEGES OF THE FUTURE.

Were it not for most ignoble jealousies and prejudices the united strength of physicians and others of all schools could induce our national Congress to establish one of the grandest homes for the sciences that was ever founded by man.

Such an institution, perfectly equipped for laboratory and other scientific work, could, by the strong inducement of princely salaries, gather from various parts of this and other countries a magnificent concourse of talent.

A COLLEGE OF PROFESSORS.

Therein may also be established a "College of Professors," where physicians, surgeons and others who aspire to professorships may, after some stated term of practical medical and other experience, undergo severe ordeals in laboratory and other work, according to their intended future duties, before being allowed to present themselves as candidates for medical, surgical or other scientific professorships.

Exceptions of course should be made for the benefit of those rare geniuses who, while possessing valuable and peculiar ability in one direction, are of but small capacity in others. Such as these may be appointed to act as special teachers in their individual work.

It will be necessary that the living and all other expenses shall be defrayed by the States or national Government for those whose qualifications entitle them to admission.

There should be a careful yearly elimination of deficient persons, and transference to departments best suited to the capacity of each student.

By such means only can we ever hope to crush nepotism and general favoritism, which now excludes invaluable talent from all schools.

There should also be departments in this education l centre wherein every thought or idea which has any possible therapeutic or other value will be respectfully and conscientiously considered, however humble its origin.

There no timid thought nor once despised idea will be sneered at and then fondly embraced as one long honored and dearly loved, as has been the amazing history of the principles involved in antitoxins.

It will also be the duty of the "College of Professors" to decide as to whom honor shall be given for new discoveries or the development and rehabilitation of old or neglected useful ideas.

Upon such persons will be conferred diplomas and medals announcing their right and title to especial distinction. This will tend to diminish the temptation to hide profitable discoveries, as a very large proportion of scientific men are willing to sacrifice profit for honor, *when honor is assured.*

Such honorable distinctions may be first declared upon certificates of right of priority or other claims; and later, after the claims have been successfully defended and sustained for a specified period, the final or grand diploma shall be publicly conferred, and the recipient, at the same time, decorated with the great medal of the legion of medical benefactors.

Those thus honored for their restoration of what is sound in ancient medicine, or for the development of original medical or surgical ideas, may bear the distinguishing title of M. R. D. (Medcinæ Redintegratæ Doctor), and words similar to the following inscribed upon their diplomas: *Qui sanas veterum diu oblivioni datas redintegravit; novasque ad homines sanandos vias ipse stravit.**

For, after all, very many of the so-called new ideas are but a rejuvenation of the old.

There was prophesied in a former paper the probable future division of the profession; the surgeon being taught in specially instituted colleges of surgery, and the physician in schools devoted wholly to medicine; the diplomas distinctly declaring each specialty. Then neither may encroach upon the domain of the other; but both degrees may be held and used by any person who has time and ability to earn them.

Favoritism will doubtless continue to be cultivated in many institutions, but the future will apply every possible safeguard to prevent its rank growth.

This "College of Professors" may, in the coming century, be empowered through the Government or the generosity of individuals to offer most tempting prizes for the best hygienic or therapeutic suggestions; or the ablest papers on various medical and surgical subjects. Some of these prizes amounting to small fortunes will wonderfully stimulate endeavor all over this country and throughout the world.

The most neglected and apparently trifling subjects will be named for consideration; such for instance, as the medical ideas and instincts of the savage tribes in all countries; also the remedial instincts of the higher and lower animals, down to the reptiles, insects and even lower animal life.

In those coming days it may not be so necessary, as in the near past and the present, to resort to the daily press to awaken physicians' comatose recognition of old and new truths.

These suggestions are not altogether Utopian; although selfishness and other moral infirmities of human nature may thwart many bright prospects in future years, even as they have in the past.

THERAPEUTIC SYSTEMS OF THE FUTURE.

While anticipating the future by reviewing the past in the light of the present, we are struck by the peculiar and often unaccountable undulations of medical opinion. The rise and fall of confidence in systems, men and isolated medical ideas have increased in frequency in proportion to the rapidity of human intercourse.

Elimination as a practical idea has better withstood the storms of ages than any other medical thought, and it has sailed in safety amid the wrecks of thousands of strange fads, good ideas and peculiar systems of practice. The plain, matter-of-fact idea of "*get it out*" has always appealed to common sense, and has had even more followers than that sterling one of "*keep it out*," or prevention.

To the support of this golden rule of elimination, more than to any other precept from the profound wisdom of its learned legions, does the great catholic, or as sometimes called physiological, school owe its continued existence. Scorning it, lost for the school of similars many hundreds of thousands of converts.

Old Dr. Francis, of New York, once humorously said: "My name may not go down to posterity for anything in the arts, sciences or literature that I have accomplished; but as long as men have bowels I shall be remembered through my Triplex Pill."

VENESECTION.

First among the great eliminators were the emetics, cathartics, diaphoretics, diuretics and venesection.

Times were when the lancet was raised on high and the whole medical world knelt in adoration. Blood-letting was once so deeply imbedded in the confidence of physicians that those who had the temerity to oppose it were treated as charlatans, who were too contemptible to associate with respectable practitioners.

But the lancet's enemies steadily increased in numbers, until the rush in the opposite direction became one universal rout. While many thousands of lives were jeopardized and even destroyed by excessive use of the lancet, there may have also been other thousands who were sacrificed by its absolute neglect.

The future physician will return to the lancet of our forefathers, but not with their careless, cure-all blood-letting. By the results of a more intelligent use of this potent remedy future practice

* Who restored the sound ideas of the ancients which had been for a long time consigned to oblivion; and who himself paved new ways for healing mankind.

will censure our uncompromising antagonism to the extraction of blood.

While it is true that aconite, veratrum viride, the nitrites and many other remedies, assisted by the accurate application of heat and cold, have efficiently supplanted bleeding in many congestive, inflammatory, spasmodic and other conditions, yet serious cases have arisen where a sufficiently prompt relief could be effected by venesection only. There are also certain grave conditions wherein the blood is so saturated by poisonous gases or other intoxicants that life would be jeopardized unless quick resort were made to full bleeding, and at the same time replacing the diminished volume of blood by rectal and intra-venous injections of saline or other solutions. Future physicians, fortified by more exact knowledge of guiding principles, will accurately determine what are proper cases, and more skillfully apply to them this most potent remedy.

Of other eliminators, the emetics and purgatives may, in a great measure, be substituted by more mechanical measures. Diuretics and diaphoretics, although remaining in the medical armamentarium, may be less freely used, but, like all other means, will be applied with infinitely more precision than ever before. But this is to be discussed when special remedies are taken up.

ASEPSIS AND ANTISEPTICS.

Aseptic and antiseptic treatment will be, necessarily, more thoroughly understood and efficiently applied than in our day. Some of the simplest of ancient antiseptic or disinfecting substances which we too generally ignore will in the future be greatly improved and made invaluable to mankind.

CHARCOAL AND SULPHUR.

Very prominent among these stand charcoal and sulphur. Although many imagine that there is nothing more of importance to be learned about these two simples, yet the coming century will undoubtedly prove that they deserve a far higher place than we have ever accorded them.

The ancients named sulphur the *god-like*, and after an earnest study of this precious drug we too may possibly sanction this hallowed name.

When we think of the almost eternal endurance of charcoal, as evidenced by the perfectly preserved charred stakes, taken from the Thames, which had been driven there by the invading Romans, we may well consider charcoal a fitting companion for the god-like sulphur.

Although theoretically knowing many things about charcoal, yet, practically, we treat it as a very ordinary and useless affair. If its merits were more carefully examined we would be amazed that it has been so long neglected. The future will place it in a higher position than it has ever held before.

Considering its immense capacity for absorbing gases, it seems strange that physicians have so seldom taken advantage of this invaluable quality of vegetable charcoal.

There are very few if any gases that it does not absorb under proper conditions, in quantities varying from moderate to immense amounts, especially when charcoal is pulverized.

When thinking earnestly of this fact it seems safe to prophesy that, in future years, the shelves of our pharmacies will be black with innumerable preparations of charcoal impregnated with a long series of gases. To-day we seldom see more than one or two lonely jars of burned willow sticks or powdered charcoal.

When physicians realize the dangers as well as the benefits of carbo-vegetabilis they will not be apt to let their patients supply themselves from the coal bins of plumbers or tinsmiths. In such places its porous body drinks in and retains any foul air present unless there is sufficient oxygen previously absorbed to neutralize such poisonous gases, and this diminishes the charcoal's future disinfecting power.

Vegetable charcoal, or pure carbon, perfectly freed from oxygen, decidedly promotes putrefaction. Flesh or fish placed in such charcoal will putrefy much more quickly than when exposed without it. Deoxidation may be affected by bringing the powdered charcoal to a red heat and then excluding it from the air so that fresh oxygen cannot enter.

Charcoal may also be deoxidized by placing it in alcohol; the oxygen leaves the pores of the charcoal and the alcohol is oxidized to acetic acid.*

In the future this putrefying quality in deoxidized charcoal may be taken advantage of in certain serious ulcerations, where, as long as any malignant tissue remains, it is desirable to promote rapid and if possible a painless decay.

In order to be able better to judge its probable future applications, let us examine the known qualities of charcoal.

As we have seen, it has no disinfecting power in itself, but acquires it by condensing in its pores oxygen from the air and modifying or polarizing it to a state of ozone or active oxygen.

If wet for any length of time, charcoal loses its value, which can be restored only by drying and bringing to a red heat and again exposing it to the air.

Its power to absorb oxygen and other gases may be very greatly increased by boiling powdered charcoal in a solution of proto-, or bichloride of platinum, and firing, as before mentioned; the platinum being decomposed and precipitated in a very finely divided form, plates every minute particle of the charcoal, thus enormously increasing its surface and intensifying its action in condensing gases.

Bear in mind that charcoal may become surcharged with deleterious gases, so it must not be handled carelessly, for more of such matter may enter its pores than the contained ozone can destroy; therefore under such conditions it may cause disease. This fact will be recalled later when its proper preparation is suggested.

Strong nitric acid slowly oxydizes it to carbonic acid gas. It can also be oxidized by the galvanic

* A party intending to purify alcohol for disinfecting copper and steel instruments, kept charcoal in it. *Imagine the result.*

current in a solution of sulphuric acid, or potassic-permanganate, and water. It remains unchanged at ordinary temperatures, for all ages.

Let us now consider the probable uses which our medical posterity will make of the vegetable and animal charcoals, as well as their manner of preparing them for application and administration in disease. All forms and combinations of this valuable menstruum and medicament will be handled with the same care that is now exercised in preparing aseptic and antiseptic dressings; and as thoroughly protected from all possible contamination from external sources.

Innumerable volatile substances which vaporize at ordinary temperatures will be housed within charcoal both for convenience of application, and in some cases to intensify or change their action, as is seen in its effect upon oxygen.

The fact that there is a vast difference in the proportion of the various gases absorbed has to be taken into account. Ninety times its volume of ammoniacal gas enters its pores, and between nine and ten of oxygen, while much less than twice its volume of hydrogen gas is absorbed by charcoal. The amount will be estimated in every instance, especially those vapors from volatile substances which may vary very largely, and as every drug of this class is likely to be combined for internal as well as external use, most careful studies must be made as to quantity absorbed, as well as the increase or decrease of intensity caused by each drug's association with the charcoal. It is probable that the vapors of turpentine will be changed within the pores. As every known volatile medicament, and possibly large numbers of those which do not give off such vapors, will be used, it would be impossible to record them.

In a general way we may name the fumes or vapors of creosote, camphor, phenol, naphtha, essential oils which have any known therapeutic value; ammonia, bromine, chlorine, iodine, flourine, sulphurous acid, carbonic acid, sulphide of hydrogen and many other gases.

To obtain these various medicinal combinations the vegetable coal, or pure carbon, as heretofore stated, must be brought to a red heat and then kept in vacuo, and when cooled the gases may be forced within the containing vessel.

Jars holding medicated or deoxidized charcoal should be *perfectly sealed* to prevent oxidation of contents.

There may be intestinal conditions where the deoxidized charcoal may be administered internally.

Multitudes of indications for such combinations will appear, especially when the value of external applications is fully appreciated. In some cases where there is serious objection to the color, feeble gas-absorbing substitutes may be found in some of the clays.

It is impossible to enumerate the conditions where, in its crude form and dynamized condition, charcoal and its combinations may be used internally and externally.

Now let us view charcoal as we know it in its simple form, as a medicine *per se*. It is singular that its real merits are so little known even to those who use its most delicate preparations. It may be so finely subdivided by prolonged trituration that its particles can enter freely even where the blood corpuscles cannot pass.

Some persons are so exceedingly sensitive to certain drugs that severe symptoms are at times produced by inappreciable quantities. During the war our old professor of materia medica, in the medical College of Virginia, used to relate, as an example, his own exquisite sensitiveness to ipecac. He could not enter a pharmacy where, although unknown to him, any one happened at the moment to be dispensing ipecac, but that he was made aware of it by an asthmatic attack, more or less severe. *

After the drug diffuses itself through the atmosphere of a room, it seems to lose the suffocating propensity sometimes observed in a freshly opened bottle.

This same peculiar sensitiveness to drug action has been observed by some while taking finely powdered charcoal; and as it has affected many persons who were unaware of its behavior, it is folly to look upon all such manifestations as imagination.

A surgeon in the German army administered internally a few doses of charcoal, which had been very finely ground with sugar of milk, to a soldier who had typhoid fever; soon there appeared a sensation of coldness, especially of the hands and feet, which ceased when the charcoal was withdrawn. The same symptom has appeared sufficiently often to be justly considered a result of drug action.

Yet this peculiar chilliness has also been relieved by charcoal when it has appeared in the course of disease. The fact that it does not benefit all such cases does not prove that it benefits none.

The future may find reasons and remedies for this supersensitiveness of certain individuals to drug, atmospheric, local and personal influences.

Among a very long list of symptoms produced or relieved in persons sensitive to its action, in minute quantities finely comminuted with sugar of milk, are looseness or aching of the teeth; sensitive and bleeding gums, at times profuse; hemoptysis and epistaxis, occasionally periodic in their return; therefore it would seem indicated in intermittent affections, with or without fever.

Thoroughly triturated in combination with quinine, in the future it may be used to enhance quinine's antiperiodic effect and at the same time mitigate some of its unpleasant symptoms.

In delicate triturations it has caused and benefited flatulent distension of the abdomen even better than when large doses of the crude drug were used. Hoarseness and even aphonia have often been improved under its use. Certain forms of blood stasis have been both caused and relieved by triturated charcoal; also painful swelling of lymphatic glands, especially the cervical. But this effect on the glands is more marked under the

* Ipecac by inhalation, or in very minute doses, has often promptly relieved very severe attacks of spasmodic asthma. Should it *aggravate* the attack, it must be withdrawn at once, and camphor or other antidotal inhalations applied.

action of animal charcoal. Those who are most influenced by charcoal are persons of lymphatic constitution, aged asthmatics, persons of low vitality or debilitated by exhausting diseases. These are but a very small part of the conditions where it may have a remedial action when used in its dynamized form.

It has also proved of value in counteracting the effects of tainted meat or fish, rancid fats and conditions developed by salt meats; first, by its chemical and absorbing qualities in its crude form; then by its more delicate action upon the lymphatic and other systems, which are observed only under the use of fine triturations.

Of the immense number of striking symptoms recorded as having been produced by charcoal, there are many which the more careful and thorough provings of the future may drop from the list. How studies of the materia medica may be conducted in coming years will be suggested in a later paper of this series. As its receptive power is great, and its particles so well adapted to assist sugar of milk in comminuting various vegetables and mineral drugs, it will assuredly be extensively used in the preparation of medicines.

Volatile medicaments would be retained among the particles of charcoal far better than in the commonly preferred milk sugar; but a combination of both would prove more desirable in preparing drugs containing such volatile matter. Probably the remedial power of many drugs would be better retained in such a menstruum.

In some cases the first trituration might be made wholly with charcoal, and then the finer preparations continued from this with pure sugar of milk.

The following experiment can be tried by any one: Take one part each of animal charcoal, vegetable charcoal and sulphur (or, in correct proportion, other remedies may be used such as arsenic, mercury, iron, quinine or any other needed medicament); then add thirty to fifty parts of sugar of milk. Grind these thoroughly together, in as large a mortar as convenient, fifteen or twenty minutes, or more at intervals, as time and strength permit, until this trituration has continued for three to six hours or even more.

Take care that this is done in a room free from contaminating gases; do not leave the powder exposed to the dust, and when finished keep it in tightly corked bottles. As an alterative, resolvent and antiseptic the sulphur combination will have an extensive value.

Another condition is developed by prolonged trituration which will be considered later.

Of such triturations it is not well to use ordinary doses, for it should be remembered that the long pulverizing intensifies drug action by making absorption far more rapid. It may be found necessary to add a great deal more of milk sugar for sensitive persons. This plan of triturating with charcoal and sugar of milk can be extended to many drugs in common use, remembering always that in a few persons some of the peculiar symptoms of the charcoal itself may be witnessed.

It may be preferable for the absorption of gases or for triturating with various volatile and other drugs, in order to avoid what is considered drug action, to use *pure carbon*, (lamp black) from burned oil. To obtain its *medicinal* action it is better to use ordinary wood charcoal containing, as it does, silica, potassa and other salts, which are probably important therapeutic factors. These salts vary in different woods; rosewood or lignum vitæ may be among the best to use.

As this article has been carried beyond its alloted space, animal charcoal and sulphur are left for the next paper.

SOME REMARKS CONCERNING THE TREATMENT OF TYPHOID FEVER.

By W. Thornton Parker, M.D., Groveland, Mass.

PROBABLY few diseases have received more intelligent attention than typhoid fever; so excellent have been the results that the mortality from this disease has been reduced very greatly within the past fifteen years.

The more recent methods of treatment seem to be directed towards attaining the object which Von Gietl, of Munich, so intelligently recognized a quarter of a century ago, when he declared that typhoid fever is a putrid infection.

To quote from an article by Dr. Worbury concerning typhoid fever, in the *Medical Fortnightly:* "There is, perhaps, no disease which requires more constant attention, patient watching and real hard work than nursing a typhoid fever patient."

The many anxious days, the long hours of the night, require the utmost diligence on the part of the nurse.

We have in the treatment of typhoid fever to contend: (1) With the putrid infection we must make an attempt to disinfect the alimentary canal throughout its entire length, we must conquer the putrid infection. (2) We must reduce the fever by bathing, whether by the use of sponge bath or tub. (3) We must sustain the patient.

In the practice of American physicians, we find that the stimulants employed are mostly whiskey, brandy and sherry wine; now and then the Hungarian Tokay, the California Zinfandel, and so-called Port are made use of.

During my student days in the General Hospital in Munich, a remarkable number of typhoid fever patients received treatment; which treatment consisted of bathing (generally in the tub), quinine in moderate doses as required, beef tea, milk, *and the systematic use of red wine.* My experience with the use of red wines in the treatment of typhoid fever has been most satisfactory. As a stimulant its action is much more desirable than any other, it does not act so impulsively as whiskey, and is besides more acceptable to the patient. Its astringent qualities are peculiarly suitable for intestinal disease such as typhoid fever. One post-mortem will convince almost any one that a preparation like red wine is peculiarly suitable for typhoid fever cases. In the

General Hospital in Munich most careful attention was given by the Sisters of Charity in ministering to the fever patients, at regular intervals, milk, beef tea, and red wine, alternating regularly, which were given day and night.

To this faithful nursing the typhoid fever patients owed their lives. Beyond doubt we can greatly improve upon our methods of treating typhoid fever by making use of intestinal irrigation, giving injections of warm water containing some such disinfectant as creosote, and by giving a considerable quantity of hot water by the mouth; this water may also be medicated or rendered antiseptic. I believe that a preparation of beechwood creosote in 1 minim doses with ½ minim of guiacol; this may be given in the liquid peptonoids, which is a most admirable nutrient in typhoid fever, or it can be given with some other nutrient preparation.

I am inclined to the use of semi-solid food for typhoid fever patients at as early a date as possible; I think it is a mistake to continue the excessive use of liquid food too long.

The general hygiene of the sick chamber must be constantly attended to, for the successful treatment of typhoid fever depends as much upon cleanliness within and without the patient as laparotomy depends upon absolute cleanliness. Where the medical attendant and the nurse recognize this, and where they are able to carry out the strict requirements of sanitary science, the patient's chances for recovery are greatly increased.

I believe that very many cases of typhoid fever are lost through auto-infection, the air of the room being rendered foul by the patient, the body supersaturated with the germs of the disease, and the intestinal canal fairly putrid. Typhoid fever demands therefore the most patient and painstaking efforts to overcome this condition of putrid infection.

ABORTION; CAUSE AND TREATMENT.*

By J. M. Krim, M. D., Louisville, Ky.

ABORTION is the term generally applied to expulsion of the fecundated contents of the uterus. Some authors restrict the term to the end of the fourth month, and use the term miscarriage from the fifth to the eighth month, and others recognize varieties based upon the time of its occurrence, viz., ovular—embryonic—fœtal. This being of no practical advantage it is seldom used. The majority of authors accept the term abortion from conception to viability, and use the term miscarriage synonymously, which sounds less harsh on sensitive ears when explaining to the laity.

The causes of abortion are varied and numerous and I will only enumerate the most frequent:

Falls, blows, shock, fright, railway travels, heavy lifting, high reaching, running sewing machines, continued fevers, eruptive fevers, pneumonia, pernicious anæmia, renal trouble, drastic cathartics, chorea, epilepsy, hysteria, tuberculosis, torsion and knotted funis, excessive vomiting, metritis, endometritis, peritonitis, pelvic cellulitis, lacerated cervix, syphilis, overdistension by a hydrocephalic, induced—the latter being divided into legitimate and criminal.

It is impossible to give a true statistical report as to frequency of abortion, as the majority occur in the first and second month, the retarded menstrual flow being a condition attributed to some other cause, when there is really an abortion and they are ignorant of it; and the criminal variety conceal it, which at a fair estimate is 50 per cent. So at best an estimate only can be given, and these of a large experience in this class of work place it one in six pregnancies—with my experience in twenty-seven years' practice I believe the estimate a very conservative one.

In early abortions hemorrhage is the leading symptom and is the first which attracts attention. The amount of blood lost is sometimes very profuse, with scarcely any pain. From the third month onward hemorrhage with pain at regular intervals are the main symptoms.

While it would appear that the diagnosis is comparatively easily made, it is not so in the first and second months, especially when the contents have been expelled and thrown away. In this condition a positive diagnosis cannot be made, and a guarded opinion is advisable. In the more advanced pregnancies there is less difficulty, and when you find an enlarged uterus, persistently bleeding, with pain at regular intervals, soft and patulous os, you may be reasonably assured that it is abortion you have to contend with; a further digital examination will as a rule dispel all doubt.

Usually the prognosis from the immediate condition is favorable, the mortality being comparatively low, except in badly managed, neglected or incomplete cases, when sepsis sometimes results from retained membranes or placenta. This condition is most seen in the third and fourth month. In the criminal variety the prognosis is not so favorable, as the sequel shows the following conditions to come on the majority of cases—metritis, endometritis, pelvic abscess, salpingitis, pyosalpinx, oöphoritis—which as a rule runs a chronic course, thereby lowering the vitality and increasing mortality. There are also cases reported which were traced to a chronic inflamed condition of the pelvic organs by slowly absorbing the septic material and producing the so-called functional nerve disorder from a slight irritability of temper or mental depression to actual insanity.

Prior to the third month there is, as a rule, little treatment called for, except in cases where there is considerable hemorrhage, and this can be controlled by tamponing the vagina. The succeeding months, especially the third and fourth month, where the fœtus has been expelled and the placenta retained, considerable bleeding generally ensues, and an attempt should be made to remove the uterine contents as speedily as possible with hand or placenta forceps, if the os is suf-

* Read before the Louisville Clinical Society.

ficiently dilated ; if not tamponing the uterus and vagina with sterilized or iodoform gauze, which will arrest hemorrhage and dilate the os sufficiently in four to six hours to remove contents. Should a portion of the placenta remain, Brann's curetta, with irrigation, can be used with success. In the fifth and sixth month there is, as a rule, less hemorrhage, the uterus behaving more as at full term, and there is little difficulty in managing the condition, except in cases where the fœtus is expelled and the placenta retained with a contracted os and no hemorrhage. In such cases it is best to let them alone, irrigating the uterus and vagina with hot sterilized water every two hours. Should the os fail to dilate in eleven to twelve hours, dilating should be done and delivery accomplished. Should, however, considerable hemorrhage follow, expulsion of the fœtus and attempt to remove the placenta should be made unless the hemorrhage is so great as to endanger life. Tamponing the uterus and vagina should be resorted to and closely observed as the uterus in these months is capable of considerable distension and concealed hemorrhage may be the result. When hemorrhage has ceased and contents are removed a hypodermic injection of citr. ergotinine 1-100, hydrastinine one-fourth grain, should be given and repeated every half an hour to insure firm contraction. This treatment applies to recent cases where the fœtus has been expelled and the placenta or a portion thereof has been retained for an indefinite time and putrefactive changes have set in, it being impossible to remove it entire on account of the rotten condition. Curetting and irrigating with a hot bichloride mercury solution, 1 to 5,000, and packing with sterilized or iodoform gauze will then be the proper treatment. Internal medication is a rule not called for except where anæmia exists to any extent.

DISCUSSION.

Dr. Carl W. idner : As a general practitioner I have had some experience with abortion, and would simply like to suggest one point to have it cleared up by those who are better posted : The treatment mapped out by Dr. Krim has been adopted to cases before the third month, that is before the formation of the placenta, as well as to cases occurring afterwards. I think there is comparatively much less danger as to premature expulsion of the fœtus after the third or fourth month, but there is a great deal of danger attached to it before the third month. If there is any indication for thorough interference, that interference consisting in carefully emptying the uterus, it seems to me it is before the third month, where we have no developed placenta but where we have the entire lining of the uterus filled with chorionic villi. The important question is, Shall we empty the uterus thoroughly, or shall we wait until nature causes enough degeneration of these tissues to throw them off? This is the question that I would like to have dwelt upon.

If any indication for interference exists, it is in those cases where we do not see a perfectly smooth ovum expelled in toto, but where portions of the membranes, etc., are retained, and, in such instances, shall we interfere and empty the uterus, or shall we trust to nature to throw off this material, exposing the patient to two dangers, further hemorrhage and sepsis? Both of these dangers and the danger of future disease of the pelvic organs are overcome or avoided by thoroughly curetting the uterus under proper precautions.

Dr. W. H. Wathen : The question in which I am especially interested is the treatment of the membanes in abortion after the sixth to the eighth week. I say for the sixth to eighth week because we never know exactly how long a woman has been pregnant. If she has been pregnant as much as eight weeks there is a very considerable placental formation observed, and all this should be removed. I do not believe that it is ever wise treatment, or that any one is ever justified in leaving the placenta after an abortion. It should be removed at once, and every particle of it removed, not with a curette, but by giving the woman chloroform, dilating the neck of the uterus, if not sufficiently dilated, with the finger or fingers, and scraping away all the decidual membranes. There is practically no danger in doing this if one understands how to practice aseptic surgery, and there is always danger if it is not done. The first danger is from hemorrhage ; second, from sepsis ; third, from subsequent sepsis weeks or months afterwards, then the formation of pus-tubes or pelvic abscesses.

Ten days ago I was called in the afternoon to see a woman who had been delivered several days before of a child, pregnancy having existed three months, where the placenta was so firmly adherent that it would not have been separated by the natural conditions probably for one or more weeks—I do not know when it would have been separated. I have never seen one so firmly adherent, but the embryo and some of the decidual membranes had become so degenerated that the woman had sufficient sepsis to cause a temperature of 103° F., a rapid pulse. When everything was removed from the uterus and this organ thoroughly washed out she had no more trouble.

The next morning I was called in another part of the city and found a case of induced abortion at three months, which had occurred five weeks previously. This woman had such a furious hemorrhage that she was apparently almost bloodless; her pulse was about 140 to 150 per minute. She was in such a weakened condition that I would have considered it dangerous treatment to have attempted to dilate and curette, which would under other circumstances have been the proper treatment, so I tamponed the uterus tightly with iodoform gauze to control hemorrhage; two or three days afterwards the uterus was again tamponed. I have not seen the patient since.

I do not know how many cases I have seen in my practice or in consultation, or was called in after abortion, where the women had bled profusely; in one instance the patient died. I do not know how many I have known to have acute sepsis, several of those dying ; and it is a regular occurrence in the practice of an abdominal and pelvic surgeon to trace his cases to an abortion, either induced or otherwise, where the membranes

were not removed. By exposing the neck of the uterus with a speculum, holding the neck firmly with Péan forceps, with a curved forceps we can tampon the uterus by pressing gauze up through the neck to the fundus. Tamponing the vagina will not arrest hemorrhage from the uterine cavity where there are vessels of any considerable size bleeding, or where there is much force to the current. Where the vessels are small, or where the woman is bleeding slightly and there is but little current, tamponing the vagina may temporarily do good, but I must confess that I never rely upon this method. My experience is that it is not wise to tampon after an abortion, but at once remove everything from the uterus.

Dr. F. W. Samuel: Dr. Krim has opened an interesting question; that is, puerperal mania. I want to briefly report two cases in this connection which may be of interest. The first was a criminal abortion in a woman, thirty-five years of age, who had borne two children. She had learned the art of introducing a catheter and produced upon herself a number of abortions. The last, however, was fatal. She introduced the catheter in the evening before retiring, and the next morning the ovum was delivered. She had been pregnant then only four or five weeks. Of course no placenta formation was present, the membranes easily passed, and no hemorrhage of any consequence occurred. At twelve o'clock the following day I was called and found her delirious, but she had no elevation of temperature. During the next three days which she lived she became maniacal, but no fever developed.

Another case went to full term. Dr. Pelle saw the patient; she had no fever at any time. She died nine days afterward from exhaustion, as did the one previously mentioned. It is a question in my mind whether puerperal mania does not follow these cases from some other cause, and not always due to sepsis. In these two cases there was practically no hemorrhage. In the last case there was a normal labor; it was the third child; everything was absolutely physiological as far as the labor was concerned. Three or four days after the child was born she developed mania and died from exhaustion. I have seen several such cases.

I believe the proper treatment of inevitable abortion is plain to every one; there is no reason to delay the treatment; but open, clean out and drain. That is the only method we need to pursue. If there is much hemorrhage, it may be necessary to tampon the uterus. I do not use for this purpose iodoform gauze, but plain gauze, on account of the very sensitive condition of the uterus and the ease with which iodoform is absorbed.

I want to speak against one thing mentioned by Dr. Krim in his paper, with all due respect to him: I would never wash the uterus which had been freshly delivered of an ovum with bichloride of mercury solution; by this means we would probably produce a superficial necrosis which would invite a septic condition. When a woman aborts, if the membranes have been thoroughly examined and we are satisfied everything has come away, let her absolutely alone; she will recover without the slightest trouble. When everything has been removed there will be no hemorrhage from abortion and there will be no necessity for tamponing, unless it occurs after the fourth or fifth month where the uterus does not promptly contract. I do not remember to have seen a case where any large vessels were broken, nor has it been necessary to tampon the uterine cavity, when everything has been removed and the uterus contracts firmly, hemorrhage ceases.

Tamponing the vagina will in some of these cases stop hemorrhage: Take a piece of cotton soaked in some antiseptic solution, put the woman in the Sim's position, tampon around the neck of the uterus, gradually building it up to the center, and you can arrest the hemorrhage. By this means you give the cervix time to dilate; then introduce your finger and remove the conception.

Dr. Louis Frank: I differ in some respects from those who have preceded me, but agree with them in a great many of the points mentioned. First as to the clinical division of abortion so-called into abortion, miscarriage and premature labor. I think it is of the utmost importance that these names should not be misconstrued or misapplied. I am aware of the fact that we apply the name abortion to any premature expulsion of the ovum, though I am also aware that this is a bad rule, because upon the time of the premature expulsion depends the treatment. The treatment of these cases based upon their clinical aspects is entirely different, depending upon the time when the premature expulsion takes place. While we have one method of treatment when expulsion occurs before the third month, we have other plans of treatment after this time. Those cases which do not fall into the category of the third month we treat upon the expectant plan as we would an ordinary case of labor. This is particularly true after viability of the child.

As to criminal abortion and its dangers: I agree that this is a crime which has become far too common, one of the products of so-called civilization and higher enlightenment; and also agree that the dangers from criminal abortion entirely surpass those we meet with from physiological abortion so-called; that is, an abortion which occurs without criminal intent. The dangers, however, are sometimes not as great as we are led to believe. I recall one case, a very highly cultured lady of this city, whom I have seen in two or three abortions, who told me the last time that she had fourteen times previously induced an abortion. The last abortion in which I saw her she had used for the purpose a sponge tent; this tent had broken in her attempts to withdraw it, and half of it, which had been left in the uterine cavity, was removed with dressing forceps, the products of conception having already been expelled. The case went on to a perfect recovery without any further treatment except irrigation. There was no hemorrhage at any time; no elevation of temperature; no symptoms whatsoever to call for active treatment.

As to the symptoms of abortion: It is true that hemorrhage is one of the symptoms and usually

the first, though not always, but from the occurrence of hemorrhage alone we must not jump at the conclusion that the woman has had an abortion; there may be other conditions which would give rise to hemorrhage, and it sometimes becomes quite a nice question to decide whether we are dealing with an attempt at abortion or some other condition. It is a fact, as we know, that a woman may menstruate from the mucuous membrane of the uterus during the first three months of pregnancy, hence the question may be difficult to decide whether there is an attempt at abortion or, indeed, whether the woman is pregnant. Again the treatment, particularly where hemorrhage is the only symptom, or where pain is the first symptom, should not always be routine. When we see the case in the beginning of hemorrhage we may often prevent an abortion, therefore we should divide the treatment of abortion into those cases where it is threatened, and those in which abortion will occur despite anything we can do; those cases where it cannot be controlled, and those where it may by proper treatment be prevented.

As to prognosis: I have already touched upon the criminal variety. In criminal abortion, as a rule, the prognosis is not as good as in the physiological variety, though where criminal abortions are produced under aseptic precautions and without great trauma the prognosis would not be any worse than in a case not criminally induced.

As to treatment: The preventive measures I have already spoken of. The question of treatment in cases of incomplete expulsion in inevitable abortion, those cases where we do not know whether the placenta has been expelled, is, I take it, the most important point which Dr. Krim has touched upon in his paper. I think that in abortion every case, as is true in all cases with which we meet in the practice of medicine, should be a law unto itself; we do not treat these cases by any routine method, but each case must be considered separately, and our treatment must depend upon the status of the case at the time we see it. In some cases we will tampon the vagina; we may give ergot, and our case will go on to a successful termination; in other cases we may find it necessary to curette and irrigate the uterus; in other cases we will be able to introduce the finger and bring away the contents. However, in all cases where we are reasonably sure that membranes have been retained, or portions of them, the indication is clearly to empty the uterus at once. How this can best be done is the question. In some cases, by the introduction of a vaginal tampon, by allowing the woman to remain in bed, enjoying rest, and by the administration of ergot, we will find upon removing the tampon the next day that the contents of the uterus will be entirely expelled, the bleeding will cease and the woman will go on to a prompt recovery. In other cases where possibly the woman has aborted several days previously, where there may be objections to the introduction of a vaginal tampon, curetting may be indicated. In some cases it may be impossible to introduce the finger into the uterus without the use of a great deal of force even with the patient under the influence of an anæsthetic. I have frequently encountered cases in which I was able to introduce a dull or even a sharp curette where it would have been impossible to have introduced the finger without chloroform and subjecting the woman to this additional danger, and lightly curetted the uterus followed by a douche and tampon, and these cases have gone on to a successful recovery. As an objection to introducing the finger to remove the products of conception in all cases, there may be conditions which will render such a procedure impossible; we may not be able to reach with the finger that part of the uterus which contains the placenta without forcibly introducing the hand into the vagina, or at least more fingers than required to dislodge the placenta. Again there may be conditions existing in the pelvis which would render such a procedure absolutely dangerous. Therefore I say each case must be considered separately. In all cases where any septic condition exists it is advisable to follow as a routine measure thorough curettage of the uterus, always followed by adequate drainage. In those cases where there is no sepsis drainage is not necessary and it has not been my practice to employ drainage in such cases.

Dr. P. Guntermann: I have never seen a fatal case of abortion of the ordinary variety, but have seen death occur where the abortion was criminally induced. I am on record to fight Dr. Wathen, and cannot help fighting him another time. I do not believe he ought to make the statement that in every case of ordinary abortion we should go to work to promptly relieve the woman of the contents of the uterus, otherwise she will die; in ordinary cases of abortion if we will abide our time and watch the patient carefully, in the majority of cases she will have no trouble. I do not believe we should curette the uterus and irrigate with all sorts of antiseptics, when no antiseptics are needed. I do not believe it is always the correct procedure to employ a tampon, although it may be advisable in some cases. I do not believe it is right to introduce your hand, or your finger, or give chloroform and extract the products of conception from the uterus the moment you see that a woman gives evidence of impending abortion, or even if she has an abortion; if you let her alone she will usually make a good recovery. As to the time, it is safe to wait before interfering in these cases, I remember a case reported to this society by one of its most honored members, where he had supposed he had delivered a woman safely and rightly, and in six weeks afterwards the whole placenta was expelled without any trouble having been experienced by the patient in the mean time. Of course this is an extreme case, but I believe it would be safe to wait at least two or three days after an abortion before resorting to any measures that have been advocated.

Dr. Louis Frank: I want to go on record as objecting to tamponing the vagina in abortions after the third month of pregnancy. The uterus after the third month should be considered more as it is at full term. By tamponing the vagina in such cases death might occur from concealed

hemorrhage. In speaking of irrigating the uterus I do not mean with bichloride solution but plain sterilized water.

Dr. F. W. Samuel: In my former remarks I intended to refer especially to inevitable abortion. I agree with what Dr. Frank says about abortion, miscarriage and premature labor. In the treatment of ordinary abortion up to the third month, there is little to be done except to carefully watch the case. I believe also that we should not forcibly dilate the neck of the uterus with the finger, rather give nature a little time to expel the contents of the uterus or wait for the cervix to dilate. In the event, however, abortion is inevitable, the best plan is to empty the uterus. If we cannot do this by bimanual manipulation of the uterus, then administer chloroform, pull down the neck and introduce the finger to dislodge the conception. I would wait if I found abortion inevitable not longer than six or seven hours; if then nature cannot accomplish the desired result I think it is time to interfere.

Dr. J. M. Krim: First, in reply to Dr. Weidner in regard to abortions occurring in the first and second months: Possibly 90 per cent. of abortions occur during these two months and the uterine contents are expelled entire. There are but few cases in these months where any portion of the membranes are retained. When the excessive hemorrhage which sometimes occurs in these cases is controled, and the uterine contents have been expelled, hemorrhage usually promptly ceases. I do not think we are likely to have any further trouble, except possibly there may be some lochial discharge which may continue longer than if the abortion had occurred at a later period.

In regard to tamponing the uterus and the vagina: I made the remark in my paper that in the third and fourth month, or even in the succeeding months, the fifth or sixth, when hemorrhage is excessive, and the os contracted, where it is impossible to remove the contents of the uterus, that by tamponing and watching the case closely, as concealed hemorrhage may take place, that you give time for the os to become dilated and you can then remove the contents. I have never had any trouble in the management of these cases. In the latter months there is considerable danger from concealed hemorrhage, and the case should be closely watched. My experience in tamponing the vagina is that it does no good. Pack the vagina as firmly as you can and it will certainly allow the blood to come through, but by tamponing both the vagina and the uterus the desired result may be accomplished.

As to irrigation: As far as a solution of bichloride of mercury, one to five thousand, acting as an escharotic is concerned, that it destroys the epithelium, etc., this has not been my experience. In most cases, however, I prefer plain hot water for the purpose of uterine irrigation. Where there is a mass to be removed, where you have to use the curette to remove some retained material, I do not think there is any especial danger in the use of bichloride of mercury, in strength one to five thousand solution. I have never seen any harm result from its application.

Concerning removal of portions of retained placenta and the dangers incident to this procedure: Where it becomes necessary to remove portions of retained placenta in recent cases, and you desire to do so before they have undergone putrefactive changes, and you cannot reach them with the finger, I see nothing else to do but to use a curette. It is better to use a curette than to pull the uterus down with forceps or give chloroform. Unless a man has an extremely long finger he will be unable in many cases to reach the attachment of the placenta and detach it. The best treatment in such cases is to curette and irrigate.

Dr. W. H. Wathen: In my remarks I confined myself to treatment of the membranes immediately subsequent to expulsion of the embryo or fœtus. I have never had a case of abortion at any time from the end of the second month up to the sixth month (I classify abortion and miscarriage the same) where I saw the case myself or in consultation immediately, in which I could not dilate the neck of the uterus and with the finger remove the membranes. I have made the assertion that with the possible exception of a woman who has never been pregnant previously, and who has a very small vagina, in every instance, whether she is pregnant two or six months, if chloroform be administered, which causes no trouble or danger, that I will be able to separate the placenta and remove it from the uterus with the finger. I have never had any hemorrhage or other trouble following such treatment, and my patients have all recovered.

THE PATHOLOGY AND TREATMENT OF CHRONIC ALCOHOLISM.

By H. Wernicke Gentles, M.D., C.M., Chicago, Ill.

THE PATHOLOGY OF CHRONIC ALCOHOLISM.

In beginning the subject of the Pathology of Chronic Alcoholism, I cannot do better than review the post-mortem appearances found in such subjects.

Stomach.—The mucous membrane is of a dark bluish red hue with patches of erosion and ulceration scattered over it, specially marked over the pyloric end and upper intestine. The muscular coat is thinned and becomes semi-transparent, the dilated vessels showing in marked contrast. Dilatation of the stomach is specially the case in malt liquor drinkers. Submucous connective tissue is increased with marked atrophy of the secreting glands.

The liver is cirrhosed, nutmeg or fatty. The spleen is frequently enlarged. The kidneys show similar loss of secreting tissue as the stomach and liver. Old pleuritic adhesions are frequent. In the lungs lobar emphysema, bronchitis, or hypostatic consolidation is generally found.

Heart.—The heart is embedded in fat. The muscles are flabby, pale, infiltrated or degenerated. Frequently dilated, or dilated and hypertrophied to overcome the increased vis a fronte caused by

renal cirrhosis, rigid arteries and pulmonary complications. There is always dilatation of the arteries, thickening of the muscular coat, frequent atheromatous patches and cysts with calcareous deposits.

In the brain hyperæmia is not so marked as in acute cases. The atrophic changes, occurring in the other organs, are very distinct in the brain. The convolutions are narrowed, shrunken and flattened.

The dura mater is abnormally thickened and adherent to the cranium. The Pacchionian bodies are enlarged. The arachnoid is opaque. The pia mater is thickened and adherent to the surface of the brain, with opaque white spots. There is increase of the ventricular and sub-arachnoid fluid; sometimes there may be oozing of blood into the substance of the brain.

The vessels from the pia mater to the cortex are enlarged, tortuous, and with marked fatty and atheromatous changes in them; as a result death frequently occurs from rupture of a vessel.

The surface of the cortex is covered with a fine meshwork of branching cells, most marked around the vessels which penetrate the cortex. The motor areas are specially involved. In the spinal column there is increased vascularity of the meninges. This is most marked in the post-median raphe and columns. In the arterial vessels the thickening may be so great as to fold up the intima in pleats or obliterate the canal of the vessel.

In neuritis, degenerative changes have been found in the posterior root zone in the lumbar and cervical regions. The changes appear to be mostly peripheral.[1] The myelon of the nerve undergoes fatty degeneration, becoming first cloudy; then it breaks up into segments followed by the formation of fatty drops, and as the result, the axis cylinder is altered or replaced.

When alcohol is taken internally it causes a vasomotor dilatation. The blood is quickly driven to the brain, face, etc., with a resulting pleasurable excitement and is later followed by dullness and heaviness, if the dose be large enough.

The excitement corresponds with an acute hyperæmia of the brain, the dullness with a passive hyperæmia due to an inhibition of the vaso-constrictor centers. This inhibition is not confined to the centers which regulate the circulation, but also affect the centers of motion, as shown by the tremulous hand after a night's debauch. In a similar way there is a loss of control over our desires, emotions and passions, and in the case of the dipsomaniac these changes tend to become permanent, but soon disappear after one bout.

Alcoholic blood parts less easily with its carbonic acid than non-alcoholic blood. During the stage of passive hyperæmia, the brain is laden with venous blood; in addition the alcohol itself is a direct nerve poison, so that the relation between the new tissue formation and the alcoholic poison, as effect and cause, is evident. The dulled perception of the dipsomaniac can be accounted for in much the same way. The brain, already poorly nourished by a blood containing too much carbonic acid, passing too slowly through the vessel, has a considerable portion of its nourishment diverted for the use of the new tissue. As time goes on, the inco-ordination of movement, desire and will becomes more marked, and the drunkard's moral and physical being becomes a wreck.

[1] Usher, *British Medical Journal*, August 20, 1893.

TREATMENT OF ALCOHOLISM.

It may be stated as a broad axiom that no alcohol is to be given in the treatment. Clum is willing to give wine, when necessary, while Kerr says that he has never required to do so in any case.

In the place of alcohol hot water, lemonade, lime juice, aromatic spirits of ammonia, ginger, cinnamon, coffee, tea or milk may be used. Demulcent drinks, *e. g.*, slippery elm and flaxseed tea, may be given where there is marked gastritis.

Where nausea and vomiting is a marked feature, give the fluids in small quantities, and either hot or cold as may best be borne. Marcet recommends oxide of zinc in two-grain doses and upward thrice daily, and says it helps the patient to sleep.

Juicy fruits or chipped pieces of ice help to relieve the terrible thirst, also effervescing mixtures with bismuth and quinine, predigested milk and lime water, club soda, vichy, etc.

The association in the patient's mind of pleasure and alcoholism may be broken by adding antimonial wine to their drink. The cases must be carefully selected and its use in a routine way is to be deprecated.

Dr. C. H. Hughes has used apomorphia with bichloride of gold with the same idea. As the sickness diminishes, concentrated beef broths and soups are administered, liquid beef peptonoids with or without creosote, light cereals, white fish, then white meats, and as the gastric troubles subside return to ordinary diet, which, while not entirely vegetarian, should contain little meat and consist largely of fruits and vegetables. Nux vomica and strychnia are of great use, but in alcoholics great care must be taken to watch the effects

J. B. McConnell, of Montreal, gives a history of twenty-five cases treated subcutaneously by nitrate of strychnia. The dose varied from one-thirtieth to one-sixth grain twice daily for ten days, once daily for ten days. The border line of tolerance was reached when two-fifth grain was reached. The maximum dose was given on the third or fourth day and continued throughout treatment. He reported fourteen relapses in eleven months. Phelps, of Rochester, obtained as good results from strychnia alone as from strychnia and atropin. Some recommend that the curative treatment with strychnia should not be begun until insomnia has ceased.

For the depression valerianate of zinc, asafœtida I have found very useful, especially where there is atonic dyspepsia; also a tablet of rhubarb, ipecac, soda and strychnia, *e. g.*, Fraser's, cinchona, quinine and salicylate of quinine have all been used at this stage. It is also very important that the resulting débris of the last bout, and from

the succeeding depression, mental and bodily, should be eliminated. The skin should be kept open by baths, by the wet pack, and the kidneys washed out by the use of saline waters, which also tend to act on the bowels.

Kerr emphasizes the effect of liquor ammonii acetatis in causing free perspiration and diuresis and for its calming effect. For the drink craze the more simple the remedies the better. Kerr believes in simple emetics, *e. g.*, ipecacuanha. He says that the patient after its use gets a quiet, refreshing sleep very different from the broken, restless sleep obtained by the use of opium, morphia, etc. He also recommends tincture of avena sativa in fifteen to twenty drop doses, hot drinks, aromatics and tincture of capsicum, taking care not to establish a capsicum habit.

Apomorphia I have used hypodermically in two cases, but had no chance to observe the results. They certainly had no desire for drink at the time of treatment, and one patient said that frequently he slept for some hours after the primary effects had worn off. Tincture of gelsemium, very closely watched, did good service in one case. Doses of potent drugs, such as strychnia, atropin, etc., should be given with care, and the results carefully watched. Massage I have found of service in toning up the muscles and preparing them for exercise in the open air. It also diminishes the cutaneous sensitiveness and frequently brings sleep.

For the sleeplessness, phenacetin, grains 8-10, repeated at one hour's interval, is safe but unreliable. Sulfonal depresses the heart, and if pushed leaves an unsteady gait in many cases.[2] Trional and paraldehyde are good, but if given largely may be followed by reactionary excitement. Chloral is believed to be safer than morphia where there are rigid arteries.

The preliminary purge followed by large doses of liquor ammonii acetatis, with the resulting diuresis and sudorific effect, often does a great deal to quiet the patient.[3]

Baths, Turkish, Russian, or the wet pack, have also a sedative effect, while they also remove the alcohol and the debris from the system.[4] Anstie recommends very highly tincture of sumbul and ether, each one-half dram. When the treatment is begun the patient should be watched night and day so that he shall have no chance to lapse. If the physician cannot obtain full control of the patient and his surroundings, then he should try to bring about his removal to a well-conducted home, where he will have the best of skilled attention at the hands of physicians and attendants who are total abstainers themselves.

The physician, in the treatment of chronic alcoholism, must impress the patient with the feeling that no matter how much he tries evasion he will be forstalled; also that the physician is determined to cure him in spite of himself. I do not think that too much emphasis can be laid upon this attitude of the physician toward his patient.

The surroundings of the patient must be attended to, and he should be compelled to take the greatest possible care of his person and his clothes. Improvement in this respect on the part of the patient is of good prognostic import. We all know the effect upon ourselves of wearing a new suit of clothes. Rest and nerve reconstructives are required; hypophosphites, coca, cod liver oil, etc., have all been lauded. The patient must be encouraged in every possible way, and allured from thoughts of himself by light exercise, music, or some occupation which does not overtax his muscles. His meals should be clean, appetizing, wholesome and easily digested, and ought to come by the clock. Everything in the way of exciting causes should be sought out and the indications met. If gastric, then some stomachic treatment. Many appear to be relieved by ipecac, rhubarb and soda, capsicum alone or in combination, bitter tonics, digestives, etc.

Idleness, brain worry, overwork, mental strains; and in women, ovarian and uterine troubles are frequent causes of lapsing and have to be met with appropriate treatment. In all cases artificial aids to sleep ought to be discontinued while the patient is under the physician's hands. In the majority of cases the use of tobacco ought not to be allowed, as alcoholic drink and tobacco are inseparably connected in many cases. In melancholia and neuritis forced feeding may be required, and the numerous complications, such as albuminuria, uremic convulsions, jaundice, pneumonia and bronchitis, require treatment, and it may be added that they are more intractable than in non-alcoholic states.

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Dr. W. W. Keen's brilliant address on "Surgery" before the American Medical Association represented the experience of one who upholds in his skill and broad science the best traditions of American surgery. In his presentation of the necessity of vivisection, upon which merciful experimentation—merciful humanity—so much of the tremendous advance in surgical knowledge is based, Dr. Keen voiced the general attitude of men of science the world over, says the Philadelphia *Press*. It would be unfortunate indeed were false sentimentality or perverted philanthropy to put a check upon advance by means of a national anti-vivisection law. As compared with surgery in England, the American sureness and brilliancy and daring doubtless owe much to the fact that animal experimentation here has been free, while, as the Huxley lecturer of last year in London was forced to deplore, English surgery had been hampered by unnecessary restrictions. In view of the present state of medicine, freedom in animal experimentation is more necessary than ever. And such experimentation means greater hope for suffering humanity.

COLLES' FRACTURE.

By J. B. Morgan, M.D., Augusta, Ga.

THE diagnosis and treatment of fractures generally are of as much or more interest to the general practitioner than they are to the surgeon. By far the greater number of all fractures are treated by the doctors in general practice. The most common and frequent one with which we have to do is that of the lower end of the radius, commonly known as Colles' fracture, its frequency making it of special interest and of great practical importance. The cause is nearly always the same—catching on the hand in the act of falling. In falling the open hand is thrown out, and the force of the fall is received first upon the palm. This results in hyperextension, or forced dorsal flexion, which is checked by the strong mass of ligaments on the anterior side of the wrist-joint. As this extension is continued by the greater force on the hand, the ligament does not lacerate readily, but through its influence upon the lower end of the radius, this bone begins to yield on its anterior aspect, and as the force is increased the line of fracture travels upward and backward until the fracture is complete. A momentary continuation of the same force will produce the usual displacement, causing the lower fragment to ride backward upon the upper, and frequently causing impaction of the firm posterior rim of the upper into the spongy substance of the lower fragment. From this explanation we would have no hesitancy in calling this a pronounced fracture by traction, and this view is generally accepted ; but of late this theory has been disputed and the claim advanced that, during dorsal flexion of the hand the upper row of carpal bones is forced against the dorsal prominence of the lower end of the radius, so that the fracture would be due to inflection rather than traction. It is immaterial to our purpose whether the fracture be the result of traction or of inflection.

Why the lower end of the ulna, as a rule, does not suffer injury is easily understood from the anatomical arrangements of the parts, it having no direct connection with the wrist joint itself. This fracture of the radius usually occurs about a half to one inch above the articular surface and is generally transverse. The line of fracture varies within certain limits, but the manner of reposition is practically the same. The diagnosis of Colles' fracture is not difficult. The history of the accident, the characteristic deformity and pain at the seat of lesion point you at once to the character of the fracture. A great deal has been said and written about the diagnosis of this typical fracture, but two points only are necessary to observe in order to arrive at a correct diagnosis. The marked displacement of the whole hand toward the radial side of the wrist and the relative position of the styloid processes of the ulna and radius. In the natural condition of the parts, with the arm hanging by the side, the styloid process of the radius is on a lower level than that of the ulna ; that is to say, nearer the ground After fracture this process is on the same or higher level than that of the ulna. The prognosis of the fracture depends in the main upon the treatment. Colles' fracture always produces deformity ; the degree of deformity turns upon the amount of displacement of the broken fragments. A misinterpretation of diagnosis, or if rightly diagnosticated, neglected or improper treatment will leave permanent this deformity. The first requirement in the treatment is to effect exact reposition. And I wish to emphasize most strongly that this cannot be done by traction. Those of us who were taught, and have faithfully practiced this method, know how impossible it is. The vast number of permanent deformities from this injury is an unanswerable argument against its use. We can readily understand why traction is inefficient when we consider for a moment the anatomical arrangements of the parts. In the first place, there is no muscle attached to the hand anywhere ; that is, attached to the radius below the line of fracture ; therefore, in making traction at the hand there are no muscular attachments by which the broken lower end of the radius can be pulled down into position.

This being the case, the only thing that traction could accomplish by the intervention of muscular attachment would be to pull the upper and longer fragment of the radius into further displacement or firmer impaction ; but the main reason why traction cannot effect reposition of the fractured fragments is on account of the action of the anterior and posterior annular ligaments during extension. These ligaments are continuous with and may be regarded as thickened portions of the the deep fascia of the forearm. They are strong, fibrous bands, arching over the front and back of the wrist joint, firmly attached to the carpal bones below and continuous with the deep fascia of the forearm above. The flexor and extensor tendons of the hand pass through and under these ligaments, in close contact with the lower end of the radius, this part of the bone being grooved for their reception. The effect of traction, therefore, would be to lengthen the longitudinal fibres of the deep fascia and annular ligaments at the expense of the transverse fibres. This would cause the ligaments around the wrist joint to more closely bind the broken end of the bone, and, more than this, the tendons which pass through and under the annual ligaments are also drawn strongly against the fractured bone, so that we would have a closely applied splint of tendons, held firmly in place by strong flexible ligaments—making replacement by traction impossible. For the greater the extension the more closely will the tendons and ligaments hug the bone, and the more firmly the fragments become fixed in their displaced position. But while traction will not accomplish it, every cause of Colles' fracture can be readily reduced by strong, forced dorsal flexion. This is best done under an anæsthetic, to avoid pain, and produce complete relaxation of the tendons and ligaments about the wrist. It may require several attempts before exact reposition can be obtained,

but with a little patience and care it can always be done. The best way to do this is with the patient's hand in pronation, you grasp his forearm with one hand in such a way that while the radius is firmly held your thumb rests just above the line of fracture. With the other hand you grasp the hand of the patient, so that your thumb presses firmly upon the back of the lower fragment. The hand is now carried strongly back toward the dorsal aspect of the radius, in forced and extreme dorsal flexion, until you feel by palpation that the lower fragment has become unlocked, and can be pushed into place by your thumbs, while at the same time the patient's hand, under strong extension, is carried into the normal position. If this manœuvre is properly done, and the fragments accurately replaced, almost any kind of a dressing which keeps the fragments at rest will give a good result.

The peculiar character of the displacement in this character, and the constant difficulty experienced in obviating deformity, have greatly stimulated inventive ingenuity, and resulted in a number of specially devised splints. We have the Gordon splint, the Coover splint, the Levis splint, the Hamilton splint, the Nelaton splint, the Bond splint, the Hays splint and a great number of others. I have neither the time nor inclination to discuss the merits and demerits of these various splints. All of them are more or less faulty; none of them are perfect. Most of these splints were devised upon the assumption that, by bearing the hand strongly to the ulna side, the fragments of the radius are brought more exactly into apposition and more easily and effectually retained—a supposition that takes for granted two things; first, that there exists an overlapping of the fragments, either through the whole extent of their broken surfaces, or especially towards the radial side, or, that the upper end of the lower fragment is inclined to fall against the ulna, or that all of these several conditions coexeist; and, secondly that if such displacements do exist, they can be remedied by fixing the hand in strong ulna flxion. The answer to the first supposition is that Robert Smith and others, who have made a particularly careful examination of all the specimens they could find in the various pathological collections, tell us that none of these displacements have been found to exist, but that the displacement is backward and somewhat upward, so that in bones in which unreduced fractures of this kind have consolidated the posterior surface is found to be considerably shortened, while the anterior retains its normal length, and, secondly, in order that this position may prove effective there must be some point upon which to act as a fulcrum. It is of no use that we rotate the hand for the purpose of making extension unless there can be found a resistance or fulcrum upon which the rotary motion may be performed. It is not in the ulna, certainly, for that bone has no point of contact with the carpal bones. When the lower end of the radius is broken, and the ligaments of the joint more or less torn, the ulna, although thrust downward much further, perhaps, than it could ever descend in its normal state, still fails to find a support, and spreading wider and wider from the radius as it is thrust further from the hand, no limit can be given to its progress, except the capacity of the joint to admit of motion in this direction; and, further, this position is unnatural and exceedingly painful. In the normal hand this position, when forced, cannot be endured beyond a few seconds, and the pain must be infinitely worse in this position when the ligaments are torn, the bone broken and the wrist inflamed and tender; and, if persisted in, will have the effect of greatly increasing the inflammation and leaving, in nearly every instance, an unsightly, crooked and permanently stiff wrist, to the great inconvenience of the patient and annoyance of the doctor.

It only remains for us to determine the form of splint which ought to be preferred, and to describe its mode of application. The best temporary, and in most cases the best permanent, dressing is Wyeth's modification of Pilcher's. It is simple and highly satisfactory, and is applied as follows: Roll two pieces of a bandage, two inches and a half wide, into a compress about as thick as the little finger. After reduction is complete and the hand brought back into the straight position, place one compress along the inner aspect of the ulna, extending from the anterior margin of the carpus upward, the other exactly parallel with this, along the outer border of the radius, over the styloid process. While these are held firmly in position, secure them by strips of adhesive plaster, 1 inch in width, wound securely around the wrist and arm, from the upper end of the compresses to the lower end. The hand and arm should be carried in a sling, and the dressing worn for two or three weeks. This dressing is neat, and while holding the fragments accurately and firmly in apposition, has the additional advantage of allowing the freest possible mobility of the wrist and fingers, thereby greatly lessening the probability of temporary or permanent stiffness.

The plaster of paris dressing is a most excellent one, and is to be preferred in old people where there is firm impaction which you do not care to break up, or in cases where the fragments are more or less comminuted. It should be applied from the lower border of the metacarpus to the middle third of the forearm—with the patient's hand in the straight position. A straight dorsal splint may also be employed, but it is not as desirable as the plaster of paris. Under no circumstances use the angular, crooked or pistol-shaped splint, and no form of splint should be allowed to project beyond the metacarpus. The fingers must remain freely movable, to prevent stiffness of the joint. Motion should be encouraged—at first, limited and careful; later, active and free. In aged patients, where you have more or less firm impaction of the broken ends, reduction should not be attempted, as it is better to have a crooked, deformed wrist than failure in bony union, and impaction favors the consolidation of the fractured bone.

— *What next?* It is reported the germ of insanity has been discovered.

FRALICK'S SPECULUM—SELF RETAINING, WITH INTERCHANGEABLE BLADES.

By Wilfred G. Fralick, M.D., New York.

Professor Operative Gynæcology, Metropolitan Post-Graduate School; Visiting Surgeon, Metropolitan Hospital, Blackwell's Island; Visiting Surgeon, Hahnemann Hospital.

FIG. *a b c d e f* represents the speculum with blade, No. 1, in position and locked.

Figs. 1, 2, 3, 4 represent detached blades.

The speculum consists of four speculum blades and a weighted shaft.

The lock attaching a blade to the shaft is a very simple device. It consists practically of a wedge attached to a blade, fitting into a corresponding receptacle in the shaft. This wedge is held in place by a fixed pin, (near the letter *b*, and a revolving button, near letter *a*).

Any of the speculum blades are instantly and solidly attached to the shaft, at the line indicated by *a b* by simply pressing the handle of the button to the left. The blade is as easily released by pressing the handle to the right.

The surface of junction between the blade and shaft slopes from in front downward and backward, so that the fluid flows over this junction into the gutter in the shaft.

The upper surface of the blade has only a slight concavity in the axis of the vagina, thus the view is not obstructed by the distal end of the blade.

The blades are of different widths and lengths.

The widest blade is especially useful in roomy vaginæ.

The narrowest blade may be introduced into the smallest vaginæ.

The shortest blades are adapted to those cases in which the cervix together with the vaginal walls require to be pulled far downward. This may be done without any displacement of the speculum from the perineum.

The blades fit accurately into one another and can therefore be packed into a small space.

The shaft is expanded and thickened at *e* to increase its weight. The whole speculum being made from cast brass, this expanded portion, unlike lead, does not become disfigured with dents, retains its smooth surface, cannot become detached from the shaft and retains its plaiting.

The gutter in the shaft is wide and therefore collects all the drainage from the vagina.

The perineal surface of the speculum is modeled after casts of the perineal and ischiorectal region taken when the legs were in the usual operating position. The speculum therefore fits the parts perfectly.

In those cases in which the coccyx and lower end of the sacrum tilt forward toward the pubis, the end of the blade cannot come in contact with the bones and raise its surface at the points *a b* upward in such a way as to obstruct the view and hinder manipulation owing to the large size of the angle *c a e* between the blade and shaft.

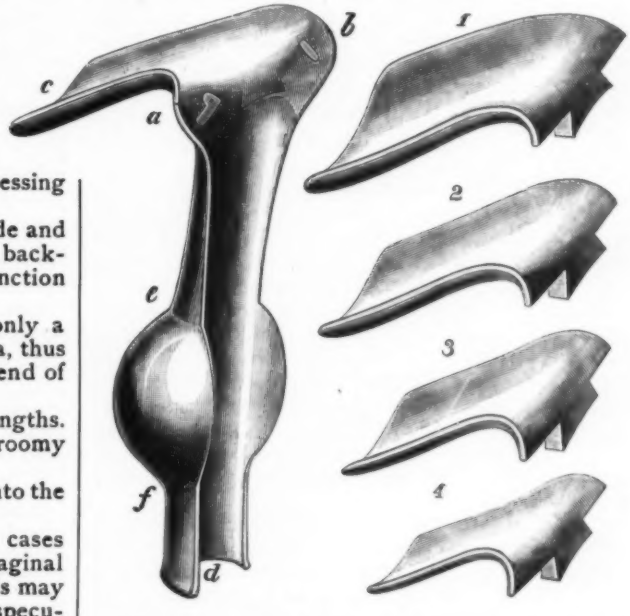
There are no angles at any point of the surface of the speculum. It does not therefore collect dirt.

When the blades are separated from the shaft every point is brought into view and can be easily cleaned.

Owing to the possibility of separating the blades from the shaft it can be packed into a small space, and for the same reason it can be placed into a shallow sterilizer.

As the speculum is self-retaining the services of one assistant are dispensed with.

Its simplicity, aseptibility, easy retention, perfect adaptability to the parts and its unsurpassed facility in exposing the parts and permitting of through manipulation make it an instrument indispensable in gynæcological work.



I desire to thank Mr. H. A. Kaysan, of 35 Bond street, Brooklyn, for the efficient manner in which he has carried out my ideas in making this speculum.

In a paper on hereditary syphilis and general paresis in the insane, by Dr. Williams (*Quar. Jour. of Inebriety*, Cin. Lan. and Clin.), occurs the following most significant passage: "Practically 75 per cent. of all cases of general paralysis exhibit proof of primarily syphilitic infection." The history of all cases is "the typical man of the world, ambitious, fond of society and high living, a light sleeper, and a heavy drinker, then come delusions and well-marked paresis." Four cases are noted where syphilitic teeth were prominent, although no history of syphilis could be obtained. Each one had used spirits freely. The pathological conditions in chronic inebriety, syphilis and paresis are all alike. The thickened membranes and meningeal changes are the same. The neurosis which predisposes to insanity, paresis or inebriety may be of syphilitic origin. A history of using alcohol exists in all cases of paresis, and it is significant of contributing causes not yet studied.

FOREIGN BODY IN THE EYE*

By J. Morrison Ray, M. D.

Clinical Professor of Ophthalmology, Etc., in the University of Louisville, Etc., Louisville, Ky.

THIS patient, Mr. N., is aged twenty-three years, and I asked him to come here to-night, not that the case is of particular interest, except the nature of the injury and the fact that he has almost perfect sight notwithstanding the injury. Three or four weeks ago he was struck in the right eye by a small particle of steel flying from a hammer, and it penetrated the cornea, going through the iris, through the suspensory ligament of the lens, and can now be seen with the ophthalmoscope lying in the retina. There is a little mass of exudation around the foreign body, and the man has had a slight iritis, which is now very much improved, and he has a vision of 20/30. It is astonishing the slight amount of irritation the piece of metal caused, although it passed through the structures of the eye as I have described. The man has good vision, which is something very rare when there is a foreign body in the eye. The lens was not injured by the piece of metal.

REMARKS.

Dr. S. G. Dabney: The indications for treatment in the case are very plain, *i. e.*, to simply leave the foreign body alone, which will probably become encysted and cause no further trouble. It has produced considerable atrophy in the area around it in the choroid, but I take it there is no likelihood of further irritation. Occasionally, however, these foreign bodies become detached, and a long time afterwards set up further irritation of the eye, but such instances are so exceptional that the indications are certainly to leave the foreign body in the hope that it will become encysted.

Accidents to the eye, and especially where foreign bodies remain in the orbit, are always of interest, and I will refer briefly to one case: A man in Meade County, Kentucky, while breaking stone, by the explosion of a machine used in the work, had his right eye entirely destroyed; the eyeball was ruptured and the whole contents evacuated. When he came to me there was nothing left except a small atrophied stump. In his left eye there was a foreign body. He was led to my office, being practically blind, but evidently the foreign body had lodged in the crystalline lens, and as a result he had a traumatic cataract with inflammation of the iris. The iris was adherent to the capsule of the lens back of it, but there was no deep seated inflammation of the eye, simply a traumatic cataract with a mild iritis. After needling the cataract he went home with vision of 20/50 and able to read, although the foreign body still remains in the eye. The foreign body apparently consisted of a little piece of stone. I have never seen vision of 20/30 with a foreign body still remaining in the eye.

Dr. J. M. Ray: One reason for bringing the patient before you was, because I have two other cases of injury to the eye by foreign bodies still in the eye, both from powder explosion, and I desired to make a report of the three cases together. A year ago last Christmas I saw a young man who had been fooling with a toy cannon which went off too soon and filled his face full of powder; a piece of the powder penetrated the cornea and lodged in the lens, producing traumatic cataract, which I needled, followed by good vision. The day after Christmas this year I saw a similar case, and still have the man under treatment. He was firing a small cannon, which was discharged prematurely, filling his face with powder. The conjunctiva was peppered and one piece of powder penetrated the cornea, lodging in the lens. I detected it at the time and told him it would be followed by a traumatic cataract. At the present time the whole lens is opaque, but I have been surprised at the small amount of irritation which has taken place in the eye. There was a mild iritis, good perception of light, etc., and I think in the course of time the cataract will have to be needled. What became of the powder in this case is a question. In the first case it seemed to me as if the powder was absorbed in the lens. After I needled it I was never able to find any vestige of the foreign body. We know that the charcoal contained in the powder could not be absorbed, and in the case I have reported it is a question what became of it.

* Reported to the Louisville Medico-Chirurgical Society.

State Medical Section.—The section on State Medicine *American Medical Association*, met at 1415 Locust Street.

Dr. Elmer Lee, of New York, President of the American Academy of Medicine and a member of the committee which was appointed in 1890 on the Revision of the United States Pharmacopœa, was present for the purpose of speaking on the subject of the "Frequency of Apoplexy Among the Higher Classes, with Recommendations for Prevention of the Condition and Escape."

Dr. Lee, in the course of his paper, showed how the habitual use of liquor aggravated and conduced to the progress of the disease, as did, he said, all artificial stimulants, though to a more or less degree. "The beginning of disease," said Dr. Lee, "is at the moment when the laws of health are first violated, and starts with infancy and childhood in the majority of cases.

"The man who loves the solace of ginslings, brandy smashes, cocktails, etc., and persists in the mistake that he is benefited, is sure to fall a victim to an implacable fate, which sooner or later seals his doom. Indeed, the number of fatalities from apoplexy would be even far greater, if it were not that death claims many victims of wrong living ere the course of mistakes run by weak, and deluded humanity reaches the apoplectic goal. This is a disease among the higher classes, for it is in this class that those excesses which contribute to produce apoplexy prevail to such a degree as to keep the press supplied with obituaries of those accounted distinguished and possessed of lovable characters. The coffee pot, the high ruler of the table and digestion, with all its bad results, prevails, to the consternation of all classes. The sauces and vinegars, the relishes and dressings, the salads and sweets, innocent in themselves, but habitually used, poisons the nourishment of the body, enfeebles the circulation and weakens the vital resistance. Too much to eat is a misfortune which has for its penalty lack of digestion and failure to relish with a keen satisfaction the whole blessing that food is intended to confer."

Many other able and interesting papers were read and discussed.

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ROBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D

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THE LESSON TAUGHT BY THE COLLEGE BOAT RACE.

THE great lessons of life are lessons of evolution, in which perfection is brought out through experience. That experience may be long and painful, every step in advance the result of experiment watched with the most careful eye and thoughtful observation. In every department in life, in every industry, and in the arts and sciences, the progress is slow, but, with the more perfect training of mind and body, ever upward until higher and more perfect results are obtained.

The contest for speed between the ocean greyhounds taxes the ingenuity of the inventor and the skill of the constructor to the utmost. Improvement is added to improvement, each improvement the result of repeated experiment and the most careful analysis of facts.

In the thousands who witnessed the recent collegiate contest on the waters of the Hudson at Poughkeepsie between Harvard, Yale and Cornell for supremacy with the oars, how many realized the fact that the race taught one of the most important lessons of the hour? As the picked men of these universities grasped their oars and bent to their work the critic could not fail but notice the stalwart form, the almost perfect proportions and the great physical strength as they grasped their oars of the crews of the two older universities in comparison with the more slender and delicate forms of the younger university. The thought which passed through the minds of the majority of the onlookers was that the crew which crowned itself with victory would be the last. And yet, as stroke after stroke was pulled, the calm self-reliance, the easy, graceful movement of Cornell showed a perfection of training, a power of endurance, a husbanding of strength, which contrasted strongly with the exhaustive efforts of the opposing crews. When the end was reached and the race fairly won the victors, as though unconscious of fatigue, shot ahead for another mile with easy, graceful stroke and unabated speed. They had not only won but brightened and strengthened their victory by their unfailing power of endurance, while the others were so exhausted at the end of the race as to—some of them—fall senseless in the boat. The lesson taught was one of the most important ones in life: the accomplishment of great results by the conservation of physical and mental power, so directed and so controlled as to extend the reserve force to the utmost possible limit. This can only be accomplished on lines which have been worked out by patient toil and careful experiment. This is specially seen in the trained nurse, who has been taught how to accomplish results in the management of the sick which would seem impossible with so little display of strength.

The question has been gravely considered by many educators if these contests of strength and skill on the water, on the ball field and in the gymnasium are not to a certain extent dangerous and liable to interfere with the classical, literary and scientific studies of the student. That there is danger in the ball game we freely admit—that it is liable to be brutal; and in the excitement of the game difficult to be kept under safe control—but in all these exercises there is not only a physical but a mental education which quickens and develops thought and increases physical and mental self-control.

The mind works with greater clearness in the classroom and more readily grasps the thoughts of the author, and the student leaves his *alma mater* with a stronger, clearer brain and better fitted to enter upon the active duties of any profession than the pale, careworn student whose days and nights, through the long years of his college life, have been spent in the study of books until his brain has become an encyclopædia of other men's thoughts.

The way in which the victory of Cornell was won adds to its strength as a lesson for the times, and the lines which led to it will be studied to advantage in future college races as well as utilized in the classroom.

MEDICAL EXAMINATION OF SCHOOL CHILDREN.

WE have at hand a reprint from the *New York Medical Journal* of April 17th, 1897, in which the author of the article, Dr. William M. Daubigné Carhart, carrying out a suggestion of a colleague, reports the results of an examination

of the eyes of 1,000 school children by means of the Javal ophthalmometer, by which instrument the exact amount of corneal astigmatism was measured.

His statistics and the deductions therefrom are of considerable value, showing as they do that the form of astigmatism known as myopic, and which is most productive of serious defects of vision and of diseased conditions sequential thereto is, in the vast majority of cases, due to overstrain consequent upon a too constant use of the eyes for near vision, and often in a bad light, which is a condition very frequently responsible for the evil. The requirements of modern civilization compel the forcing of children in educational matters to use the eyes too much for near work. In ancient times mankind lived in huts and tents, had no books and used their eyes very little for exacting near work. We venture to say that muscular and accommodative asthenopia, myopia and myopic astigmatism then very rarely occurred because the conditions favorable to their acquirement did not exist.

Granting the evident fact that myopia, either alone or in combination with the myopic astigmatism, is acquired by a too persistent use of the eyes for near vision, it naturally follows that our duty is to carefully watch the refraction of school children and to remove at once the cause of the trouble the moment a trace of myopia or myopic astigmatism is discovered. The author promises to keep track of as many as possible of the children examined and we await with interest the results of his next examination of his little subjects. In the words of the author, "the fate of the refraction of the eye is usually settled before puberty. Childhood is the critical period of growth. If that period is passed without undue distension, myopia and astigmatism are not likely to develop at all in after life."

So much for Dr. Carhart's valuable contribution to this important matter. Now it is well to call attention to a neglected point in this connection. He says: "These tables represent the results of the examination which *the courtesy* of the school trustees enabled me to make." The italics are ours. Why is it that physicians are expected to give valuable time, intelligence and hard earned skill for the benefit of a community, with no hope of the other reward than the *courtesy* of being permitted to do so?

It is high time that cities and towns curtail some needless extravagance in order to pay hundreds of skillful occulists whose duty it shall be to examine at stated intervals the eyes of every child in our schools and have the power to exclude children temporarily or permanently who may be endangered by study. Lately an entering wedge has been applied in that direction by the appointment of medical inspectors for the public schools of New York City. While the beggarly compensation of $1 a day, which is given for such valuable skill, is the height of absurdity, yet if the appointees do good work they will serve as mauls to drive in that wedge.

THE JUBILEE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

CERTAIN it is (*Fassett's Bureau of the Medical Press*) that in the history of medical gatherings there never has been one which was so entirely a success from every point of view. The attendance was beyond the hopes of the most sanguine, the business and scientific work of the association excited and held the interest of all its members to the very last, and was of that high order which has been its characteristic throughout the society's half century. As to social features, the medical men, medical schools, business houses and citizens of Philadelphia vied with each other in efforts to make the social an exceptionally prominent factor, and their success was appreciated by their visitors. It was the general verdict that Philadelphia stands unrivaled when she decides to open wide her arms in greeting and hospitality.

The general sessions of the association were held daily in the Academy of Music. The principal addresses were the President's, by Dr. Nicholas Senn, of Chicago; "On Medicine," Dr. Austin Flint, of New York; "On Surgery," Dr. W. W. Keen, of Philadelphia, and "On State Medicine," by Dr. John B. Hamilton, of Chicago.

The features of the seventh session was a visit of the Association of the President of the United States. President McKinley was escorted to the stage by Professors Nicholas Senn and Hobart A. Hare, amid thundering applause. In the party were Governor Hastings, Mayor Warwick and Dr. William Pepper.

As the President advanced to the front of the stage silence prevailed. In a few eloquent and touching words he expressed his pleasure at being able to address such a noble body of men, and complimented the members upon the magnitude and power of their association. At the conclusion of his remarks he left the stage amid great applause.

Governor Hastings was then called upon. His speech was a lively one, with wit and humor, and the walls of the great auditorium reverberated with laughter.

Governor Hastings quite captured the Association. Pennsylvania is to be congratulated; that she has a Governor who is not in sympathy with quackery, and who is not afraid to say so.

The Jubilee Meeting was held on the third day, June 3. Dr. N. S. Davis, of Chicago, one of the founders of the Association, made the principal address. He gave a brief history of the origin of the Association, the principles on which it was organized, the objects it was designed to accomplish, and how far they have been attained during the half century of its existence. Dr. Davis was followed by communications from others of the founders, and by short addresses by Dr. G. B. Johnson, President of the Virginia Society, and Dr. W. P. Watson, President New Jersey State Board of Medical Examiners.

The business of the Association was carried on without hitch or disagreement. The report of the Rush Monument Committee introduced that important subject, and following Colorado's lead, $80,000 were soon pledged by the various State delegations and the work materially reinvigorated. The Rush monument begins to appear tangible—may it soon materialize!

The scientific work of the Association was of too wide a range to be given more than passing notice here. The twelve sections held simultaneously daily meetings, and each section claims to have done more work than the others. The attendance on sections was in keeping with the general attendance, which was greater than that of any former meeting.

Antitoxin and its use in diphtheria was the subject of animated discussion in the section of pediatrics and the interest in this timely topic was also shown by the large number who participated.

The exhibition hall was a revelation to even the most experienced. Throughout the entire session a continuous stream of struggling humanity wended its way through the many passages. Here and there the medico could be seen loaded down with samples and magazines. The majority of the exhibitors kept open house, and the delegates were liberally treated.

CAMP DUTY FOR SURGEONS.

THE Adjutant-General has appointed Lieut.-Col. N. S. Jarvis, Assistant Surgeon-General S. N. Y., as medical instructor at the camp of instruction, and has published the following instructions for the guidance of the medical arm of the service:

The medical officers and hospital corps men on duty at the camp of instruction will be subject to the medical instructor for the purpose of instruction in their duties under these orders and such as the post commander may see proper to issue.

Upon the recommendation of the Surgeon-General the course of medical instruction at the camp of instruction will embrace the following:

Military courtesy, drill regulations for hospital corps, treatment of wounds, fractures, gunshot, shell and bayonet wounds, hemorrhage and its treatment, bandaging, antiseptic, resuscitation of the drowned, sun and heat stroke persons, the principles of nursing, the use of the most commonly employed surgical instruments, anæsthetic, preparation for operations, etc.

The medical officers of organizations on arrival at the camp of instruction will be directed by their respective commanding officers to report at the post hospital to the Surgeon-General for such professional details and instructions as he may desire to impart to them.

The senior medical officer of the organization on duty at the camp will perform the duties of post surgeon. The ambulances and other medical and surgical paraphernalia introduced at the suggestion of Gen. M. O. Terry, will be used in camp.

FATHER KNEIPP.

THIS distinguished Roman Catholic priest, known throughout the world for his peculiar ideas of the application of water in the cure of disease and the great success which marked his treatment, died after a long illness at his Sanitarium Woenshofer, in Bavaria, on the 16th of June.

It is said that during the past year more than 30,000 people visited his sanitarium. He was popular among the Austrian nobility, having treated the Emperor and several members of the royal family. Even the Pope was numbered among his patients.

In addition to the cold water treatment, which differed somewhat from that of Priestnitz, the simplest kind of remedies of a medicinal nature were given. The patients were compelled to walk barefooted in the snow in the winter and barefooted on the wet grass in summer early in the morning before the dew had disappeared. The theory that congestion of blood in different parts of the body is the cause of the majority of diseases, especially of a nervous character, led him to mark out his peculiar line of treatment toward equalizing the circulation and toning up the blood and nerve cells into greater vigor and more harmonious action.

YELLOW FEVER GERM.

DR. SANARELLI has officially announced before the Congress of South American physicians his discovery of the yellow fever microbe which was made last January. He described the germ, its effects and the result of his experiments with it.

Dr. Sanarelli has named the germ bacillus icteroide. He asserts that this bacillus was found in the blood of the patients affected with yellow fever and was not discoverable in the vomited materials or in the contents of the intestines. In accordance with well-known bacteriological laws, it was the poison secreted by this microbe which caused the fever.

The bacillus is described as being peculiar in shape, having the form of little sticks, round and pointed at the extremities, being united, pair by pair, in cultures and by groups, as found in the human textures. They are exceedingly minute, being from two to four thousandths of a millimetre in length.

Dr. Sanarelli made five test experiments on men by injecting the antitoxin formed from the bacillus, and in all cases it is claimed, the symptoms of yellow fever were produced. He believes that the microbe, in causing the fever, penetrates the liver when injuries have been inflicted in that region, or enters wounds in other parts of the body; that it is indigenous to hot climates and thrives in confined and illy ventilated localities. This explains, he maintains, the frightful ravages of the disease on board ships and in badly ventilated, damp, moist localities.

THERE IS MANY A SLIP BETWEEN THE CUP AND THE LIP.

THE marriage in high life to which we referred in our June issue in which the high contracting parties were the Bellevue Hospital Medical College and the New York University was after all no marriage at all. Both stood trembling on the brink of matrimony, but when the time came for the final act the shadow of coming discord loomed up so strongly between them that both started back in terror and determined to go on their way alone. Bellevue will put up a new building in the immediate vicinity of the old one and both will continue the manufacture of doctors but with increased facilities for improvement. So mote it be.

PARALYSIS AGITANS.—For this most troublesome and intractable disease hyoscamine is coming to the front with promise of relief for a disease which has long been looked upon as a *bête noir* of our profession. Notwithstanding favorable results from the administration of a remedy by no means justifies a claim for it as a specific, yet the experience of Dr. Chalmere, of Chicago, as given in the *New York Medical Journal*, every one of these well-marked cases is a sufficient warrant for a test of hyoscamine in similar cases. The first case was that of a clergyman where the shaking of the head and the right upper and lower extremity had been on the increase for four years.

A drop of solution of hydrobimide of hyoscamine, two grains to the ounce, was put into the eye. In twenty minutes the shaking had entirely ceased and at the end of three-quarters of an hour speech was difficult and the patient was unable to rise from his chair. This partial paralysis gradually disappeared, there being no return of the shaking for several hours. In this case as in the other, the use of a solution of one grain to the ounce was sufficient, applied at stated times to keep the patient entirely comfortable. Even a temporary relief obtained without injury to the system will be hailed with gratitude.

TESLA GRIPS THE WORLD and thinks he has established a principle which will open communication with the inhabitants of the stars. After years of work Tesla declares he has produced electrical devices with which he can actually send and receive messages by a system which can be so applied as to make it possible for an operator in New York to communicate with ease and certainty with people of any part of the earth and possibly with the stars. He has sent messages through the earth without wire for twenty miles, and if this can be accomplished, he reasons, why can he not, backed by sufficient power, send them around the earth or to the stars? While Tesla does not give the precise steps of his work, he admits the results are obtained through some form of his electric oscillator, recently patented. This oscillator acts on the principle of a bell, where a single stroke of the hammer sets the metal vibrating with a rapidity commensurate with its bulk, and these vibrations can be continued indefinitely by repeated strokes of the hammer at slow intervals. Mr. Tesla now makes oscillators which will interrupt the current millions of times in a second. In explaining the theory upon which his new devices for telegraphing over the whole earth works, Mr. Tesla used a simple simile.

"Suppose the whole earth," he said, "to be like a hollow rubber ball filled with water, and at one place I have a tube attached to this, with a plun-

ger in the tube. If I press upon the plunger the water in the tube will be driven into the rubber ball, and as the water is practically incompressible, every part of the surface of the ball will be expanded. If I withdraw the plunger, the water follows it and every part of the ball will contract. Now, if I pierce the surface of the ball several times and set tubes and plungers at each place the plungers in these will vibrate up and down in answer to every movement which I may produce in the plunger of the first tube. If I were to produce an explosion in the center of the body of water in the ball, this would set up a series of vibrations in the whole body. If I could then set the plunger in one of the tubes to vibrating in consonance with the vibrations of the water, in a little while and with the use of a very little energy I could burst the whole thing asunder."

Tesla believes by his electrical devices he will, when they are more perfected, be enabled to transmit power from place to place without wires. If that can be accomplished it will solve the greatest problem which now constricts the use of electricity.

THE semi-centennial jubilee meeting of the American Medical Association, just closed in Philadelphia, marks one of the most successful meetings, both from the scientific point of view and in attendance, in the fifty years of its history. The presence in Philadelphia of the President of the United States, who made an address before the Association, lent additional interest to the occasion. The physicians and citizens of Philadelphia vied with each other in catering to the enjoyment of the visitors. The officers elected for the ensuing year are: George M. Sternberg, M. D., District Columbia, President; J. M. Matthews, M. D., Kentucky, First Vice-President; W. H. Thompson, M. D., Indiana, Second Vice-President. W. B. Atkinson, M. D., Philadelphia, was retained as Permanent Secretary. After a spirited discussion, the Committee on Place of Meeting selected Denver, Col., for the session of 1898. The selection of Dr. Sternberg as President confers due honor on one who has done much to make American medical science honored at home and respected abroad. In the van himself in all that signifies the new medicine of today, Dr. Sternberg has made the new knowledge felt in the direction of prevention, both for the community and the individual. His discovery of the action of the white blood corpuscles on disease germs, afterward made famous in Europe by Metchnikoff's researches in phagocytosis, marked the American as a representative bacteriologist. This discovery, which is not pushed to the extreme by Dr. Sternberg in his deductions as it is by his European confrère, gives a new and rational reading to the old phrase of "nature's healing force." The work Dr. Sternberg has done unquestionably will lead up to some epoch-making discovery in the near future as to the exact factors that give immunity from disease. And when the cause of immunity is known, preventive medicine will enter upon its golden age.

THE LABORATORY of Cornell, where special attention is given to the investigation of rare earths, has probably the greatest collection of them of any institution in the world. As for example, it has 300 ounces of didymium, worth $7 an ounce; 30 ounces of lanthanum, worth $35 an ounce; cerrium quoted at $6 an ounce, 400 ounces. There are many specimens of earth in the laboratory so rare that none can be found in market.

THE semi-centennial commencement of St. Francis Xavier College, held in Carnegie Hall, June 21st, called together a brilliant and scholarly audience, filling every seat in the vast hall. It was the jubilee year of a college which had grown up in our midst and is noted throughout the world for the excellence of its classical, philosophical and scientific teaching. It was a pleasing sight to see representatives of the leading universities and colleges and learned societies of the United States, without regard to creed, congratulating their sister college by word and presence, upon its standing in the educational world and the magnificent work it had accomplished in training the mind of its students to think, and thus work out the problems of the world's progress. Among the honors conferred none was more richly deserved than that of LL. D. upon our old friend, Dr. James Robie Wood. Dr. Wood is no less to be congratulated as the recipient of the honor than the college for the wisdom of its choice.

STERILITY.—Many a household is rendered unhappy by the absence of children. This is sometimes owing to the husband and sometimes to the wife, but in many cases it is almost impossible to determine the real cause of the trouble. In these cases Dr. John Harris Jones (Edin.) counsels not to forget the sedative affinity of *belladonna* toward the female sexual organs

and gives his opinion that this drug is followed by more or less benefit in every disease to which these parts are liable, and in married women, who though apparently enjoying the best of health and never suffering from any irregularity of the sexual organs are yet sterile, the exhibition of belladonna internally for some weeks is so frequently followed by pregnancy as to preclude the occurrence as a mere coincidence. Dr. Jones, though advancing no theory in regard to the matter, has noticed that during the exhibition of the drug the external genitals become more relaxed and the os and cervix more pliable and softened.

PLANTS are subject to the influence of ether and chloroform, but the effect is to awaken them instead of putting them to sleep. The anæsthetics seem to act as a stimulant, plants under their influence growing rapidly either in or out of season.

HOLOCAINE.—This new remedy in the estimation of Dr. Hasket Derby, in the Boston *Medical and Surgical Journal*, June 3d, is destined to supplant cocaine in many cases of ophthalmic surgery. Its advantages are, it does not enlarge the pupil. It does not affect the accomdation. It does not increase the intraocular pressure. It promotes antisepsis and may be used when cocaine is contraindicated. The poisonous properties of the drug should prevent its hypodermic use. In a large number of operations where the drug was used the anæsthesia was rapid and satisfactory.

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REFERENCE BOOK OF PRACTICAL THERAPEUTICS. By Various Authors. Edited by Frank P. Foster, M. D. In two volumes. Vol. II. New York: D. Appleton & Co., 1897.

The impression formed from inspection of the first volume of "Practical Therapeutics" has been confirmed and strengthened by a careful examination of the second and last volume. In fulness of information, in clearness of statement, in the ability with which facts are analyzed and presented nothing superior has recently issued from the medical press.

THE DISORDERS OF DIGESTION IN INFANCY AND CHILDHOOD. By W. Soltan Finwick, M. D., B. S., London. With Illustrations. Philadelphia: J. B. Lippincott Co.; 1897.

This work has been compiled by the author from the notes of some 5,000 cases of disordered digestion which came under his notice at the Evelena Hospital and elsewhere. The first five chapters deal with the physiology of digestion in early life, and the various diseases which are apt to arise from neglect of those fundamental laws which should regulate the diet and hygiene of infancy. The rest of the book is occupied with a description of the diseases of the stomach which are encountered during the period of childhood. The appendix includes a short account of the methods employed in the chemical examination of the contents of the stomach, and certain recipes and formulas to which special reference is made in the work.

The author is fortunate in the easy and graceful manner in which he presents his facts, saying what he has to say in as few words as possible, and leaving no doubt in the minds of his readers as to his precise meaning.

PHARMACOPŒIA OF THE AMERICAN INSTITUTE OF HOMŒOPATHY. Otis Clapp & Son: Boston, Mass.

This work has been prepared by a committee appointed by the American Institute of Homœopathy in 1888, and includes Part I, General pharmacy of drugs for homœopathic use.

Part II, Special Pharmaceutics. Part III. select tables for reference, to which is added a list of remedies with pronunciation and a copious general index. To secure an unvarying standard of strength the British method of preparing tinctures has been adopted. This method secures a uniform strength representing 10 per cent. of the dry crude drug, although the fresh substances are to be used wherever possible, their exhaust moisture being regarded as part of the menstrum.

In nomenclature, while each old Latin titular name has been retained, the present chemical name has been added to the title of headings. The decimal scale has been adopted in notation both in preparation of attenuation and designating the degree of strength. In weights and measures the metric system has been adopted. The work contains 676 pages and will be delivered in any part of the United States for $4.50 cloth and $5.25 morocco.

A PRACTICAL HAND BOOK IN DIAGNOSIS AND TREATMENT OF DISEASES OF THE GENITO-URINARY SYSTEM AND SYPHILIS, being the revised and enlarged notes, with additions by George Parker Holden, M. D., of Clinical Lectures Delivered in the Flower Hospital by F. E. Doughty, M. D. Philadelphia: Boericke & Tafel, 1897.

The volume opens with a diagrammatic plate illustrating the urethra, prostate, bladder, etc., and the technique of a few minor operations upon the penis. The description of the armamentarium necessary for the carrying out of the modern ideas in the diagnosis and treatment of diseases of the genito-urinary apparatus is good. The author has intended this work, in accordance with his plan of teaching, to be thoroughly practical. The subjects have been brought to date in many respects, and the text is condensed and illustrated by a variety of characteristic clinical cases as met with in daily practice, such as various forms of bladder diseases, diseases of the testacle, prostate, urethra, notable cases of hermaphroditism and of elephantiasis of the scrotum, etc. Especial attention has been given to the latest accepted teachings upon the etiology, symptoms, pathology, diagnosis and treatment of the diseases of the urethra and bladder. The ideas expressed by Dr. Doughty in regard to the after treatment of cases of perineal section are exceedingly valuable.

The articles are written as though addressed to students in lectures, so many repetitions are noticed, which to the student serve to impress the facts more forcibly. The general practitioner as well as the student will find the work well worth a place in his medical library.

J. H. S.

HYSTERIA AND CERTAIN ALLIED CONDITIONS, Their Nature and Treatment, with Special Reference to the Application of the Rest Cure, Massage, Electrotherapy, Hypnotism, etc. By George I. Preston, M. D. Illustrated. Price, $2. Philadelphia: P. Blaxiston, Son & Co.; 1897.

In defining hysteria Mills, in his article in "Pepper's System of Medicine," says: "Comparing and analyzing

the different views, it may be concluded with reference to the pathology of hysteria as follows:

"1. The anatomical changes in hysteria are temporary.

"2. These changes may be at any level of the cerebro-spiral axis, but are most common and most extensively central.

"3. They are both dynamic and vascular; the dynamic are of some undemonstrable molecular character; the vascular are either spastic or parotic; most frequently the latter.

"4. The psychic element enters in that, on the one hand, violent mental stimuli, which originate in the critical hemispheres, are transmitted to vaso-motor conductors; or, on the other hand, psychic passuity or torpor permits the undue activity of the lower nervous levels."

Hysteria presents one of the most interesting studies from a psychological standpoint of the whole range of diseases. The author justly says, when our technic becomes more perfect than it is now he shall be able to detect changes in the protoplasm of the brain cells, which will clear up niuch of the mystery that attaches to mental disturbances, whether of a temporary or permanent nature. Prof. Preston has handled the subject so far as diagnosis and treatment is concerned with as much skill and intelligence as is possible with our limited notion of the cause of one of the most vexatious maladies affecting the human system.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF MEDICINE.

Treatment of Ataxia by Forced Incurvation of the Vertebral Column.—M. R. Blondel said: I am glad to see from an interesting communication read at the last sitting of the Academy, and presented by MM. Gilles de la Tourette and Chipault, that my own idea, given out two years ago, was adopted by them. In a communication made to the Therapeutic Society, March 20, 1895, and published in the *Therapeutic Review*, which the above-named authors have done me the honor to mention, and which I moreover find reproduced in the classic work of Erb, I demonstrated that an elongation of the medulla in its canal could be produced without exposing it to the dangers of suspension, and by a very simple and harmless method. The subject lying upon his bed, a strong strap provided with buckles is passed behind the shoulders and from there below the knees or under the heels, according to his corpulence or the length of the limbs. The strap is then forcibly tightened and the subject kept in this position for five minutes, allowing him to lie on his side to facilitate respiration. In this way we obtain by forced incurvation of the vertebral column an elongation of the rachidian axis, proof of which has been given by Bonuzzi and others by direct experiments upon the cadaver, and I would add that this elongation must bear directly upon the exterior circumference of the arc; that is, upon the posterior cords, which are the seat of the lesions of ataxia. MM. Tourette and Chipault have given a very complete anatomical demonstration, and have somewhat modified my "technique," by keeping the patient with the limbs elongated and flexing the trunk upon them, which perhaps limits the extent of the flexion, and must interfere with the movements of respiration by greater compression of the abdomen. I must felicitate MM. Gilles de la Tourette and Chipault upon the brilliant results reported by them, and five observations of my own show me that the method has the best chances of success when applied early and as soon as the pains appear. It would seem that the elongation of the posterior cords, without retarding the evolution of the process of sclerosis, which has invaded them, acts particularly upon the young and newly formed sclerosed tissues, thus preventing one of the effects of the sclerosis from manifesting itself. I have had too few cases to pronouuce the method absolutely harmless, but MM. Tourette and Chipault have employed it in a large number of cases without accidents. There are cases in which caution is necessary, viz.: in obese or cardiac subjects, in dyspnœa and those exposed to syncope. But there is a danger to be taken into account. I allude to the fragility of the osseous structures in certain tabetics. In these patients who are subject to spontaneous fractures, to special affections of the joints well known, it is possible that a very violent incurvation might produce serious injury to the vertebral column with all the deplorable consequences of compression of the medulla, and this is all the more to be feared because of the lack of muscular tone in tabetics, as shown by Déjérine, Frankel and others. In fine, I believe that tabetics, at the beginning of their atrocious pains, may resort to the method I have indicated with advantage, and I think, too, that my method is more simple than that of M. Tourette, and produces a more complete elongation. But is extreme elongation indispensable? Is the tabetic medulla elongated in all periods of tabes in as great proportion as in the healthy condition, and is more to be expected from this method than the arrest of sclerosed tissue in its first periods? Will the other symptoms, viz., the terrible pains and the vesical troubles, be influenced by this local action upon the posterior cords? I cannot say, and only experience will prove. Meanwhile, I can only applaud the persevering researches of MM. Gilles de la Tourette and Chipault, which have obtained for them more success from my method than I can claim from my short and very limited experience in this therapeutic specialty.

Surgical Treatment of Spontaneous Perforation of the Stomach.—M. Le Dentu: A precise diagnosis is indispensable in such cases, and there are two signs which are almost pathognomonic. One is the sensation of sudden pain in the gastric region, the other is a sonorousness of the hepatic zone due to an eruption of gas. But these signs are not constant, but prompt surgical interference is necessary, and success is more frequent the sooner the operation is performed. There are other symptoms, viz., a sensation of tearing in the region of the stomach, pain followed by collapse, pallor of the face, small and frequent pulse and cold sweat; laparotomy reveals the perforation, then the suture and other operative details follow. In order to avoid the diffusion of germs, and so gain time, says M. Le Dentu, I prefer dry cleansing of the peritoneum with aseptic compresses to extensive irrigation. Suture of the perforation should be practiced as often as it can be shown to be possible, but if it should be difficult to reach it, it would be better to tampon the peritoneal cavity in the neighborhood and establish drainage.

Treatment of Appendicitis.—M. Dieulafoy: M. Dumontpallier has applied to me two causes for reproach, one for having substituted for the old name of typhlitis the new word appendicitis; the other for favoring too warmly operative intervention. I have never denied that there were different forms of typhlitis, as there are many kinds of enteritis and colitis. But this I affirm, that typhlitis, otherwise called stercoral typhlitis with disorganization that may result in perforation, does not exist. It is a false typhlitis, whose seat is the appendix, and if there are in cases of this kind lesions of the cœcum it may be affirmed that they are always consecutive upon those of the appendix. As respects the treatment, I have good reasons to support surgical intervention, and without recalling thirty-five cases that I have seen during eighteen months, there are others, all recent, in which the operation manifestly saved the lives of the patients.

Looking to the clinical symptoms alone, an opponent of the operation would have opposed it, for the temperature was moderate, no peritoneal facial indications, nor exaggerated acceleration of the pulse. The operation revealed in all an ulcerated or gangrenous appendix, indisputable lesions of peritonitis, diffused or general. The operation was urgently required; if not performed all the patients would be dead to-day. My conviction then remains unshaken, that in true appendicites (the diagnosis is often very delicate) the only rational treatment is the surgical, and performed opportunely.

M. Dumontpallier: I have but a single word in answer

to M. Dieulafoy. He has not refuted one of my arguments; I believe moreover that the religion of the Academy must be sustained, and we must conclude from all the preceding discussions that if surgical intervention in appendicitis saves a certain number of patients, Nature, too, is often charged with determining favorable results. I do not wish for further proof than the statistics which I have here, and which give 94/100 of cures in 10,000 cases with the old medical reatment. No eloquence can prevail against facts.

Diabetes Treated with Methylene Blue.—M. Marie: A man of forty-eight years voided from 38 to 40 grammes of sugar per litre. From 4 to 8 capsules containing ach 15 centigr. of methylene blue were given daily, and at the end of a few days the quantity of sugar decreased to 9 grammes; after five or six weeks' treatment it disappeared. It is proper to add that the regimen was modified at the same time; but be this as it may, it is encouraging and the experiment is being repeated on two other diabetics.

Causes of Slow Death in Extensive Burns of the Skin; Pathogenesis and Treatment.—M. Barrié: In extensive burns of the skin the cause of slow death is the poisoning of the blood which results from the arrest of the cutaneous and renal functions, and therapeutics should inspire pathogenic considerations. First, to promote the activity of the skin by moist wrapping and dry frictions. Second, milk diet without delay. Third, prolonged inhalations of oxygen. If, in spite of all, the urine be scant, and as diuresis is caused rather by the physiological intolerance of the kidneys of the irritating toxines contained in the blood, than by an anatomopathological alteration of the renal parenchyma, the best way to re-establish urinary purification is to dilute the blood itself by abundant and repeated injections of artificial serum.

Osseous Radiography.—M. Ollier presented a series of radiographic proofs showing the reparation, almost always, complete of portions of resected bones due to the preservation of the periosteum and to osseous growths, whioh promote regeneration of the diaphysis in cases which otherwise would be considered as involving the complete loss of the diseased member.

M. Péan: It is interesting to know in surgery, as far as possible, the reparative properties of bones. But when reparation is not possible it is important to know how an entire bone can be replaced by an artificial apparatus. Lately I inserted an artificial femur in among the muscles of the thigh, and by means of the X-rays I have been able to see that the foreign body was soon covered, due to the periosteum, by an osteiform tissue, more or less hard and more or less transparent. I also replaced the tibia by a decalcified bone of a sheep and the same phenomenon was repeated. The important point is to use a smaller artificial prothesis than the normal bone. There are patients in whom suppuration occurs, but that does not always prevent a definite cure.

FRENCH OPHTHALMOLOGICAL SOCIETY.

The Role of Auto-Infection in Diseases of the Eye.—Report of M. Ph. Panas.—Under the title of ocular auto-infection, M. Panas understands the infection of the eye or of its annexæ through the circulation. That the germs and their toxines come from without or act by means of superabundant organic elements that are incompletely eliminated by their natural emunctories. Two factors are instrumental in creating spontaneous morbid products in the apparatus of the eye; one a pathogenic agency conveyed by the blood, the other the constitutional condition of the subject. The effects of the agents of infection upon the tissues manifest themselves by inflammatory processes from œdema to suppuration, by hemorrhages with or without intravenous thromboses, or by benign or malignant hyperplasia. The participation of the eye in different pathological conditions has long been known. The diseases of infection invading the eye through the general organism are syphilis, tuberculosis, lepra, certain blennorhagic manifestations, suppurative fevers, puerperal or traumatic typhus, cerebro-spinal meningitis, influenza, erysipelas, diphtheria, pernicious anæmia, paludism, etc. Among the chemical poisons, alcohol, nicotine, the sulphide of carbon, sautonine, quinine, etc., attack the eye especially through the optic tract and produce so many well-known affections of the classes of ambiyopia and atrophy. Every source of infection, situated in any part of the body, that can act directly or indirectly upon the eye should be carefully watched. In women the utero-ovarian apparatus plays a preponderating part. The metastatic ophthalmia of puerperal origin, internal suppurations of the genital tract in women produce metastatic purulent ophthalmia more frequently than is generally supposed. The same peculiarities are observed in the eye consecutively from wounds and operations, except that here the streptococcus is more frequently met with. Different medical diseases attack the two sexes, such as influenza, cerebro-spinal meningitis, typhus, more rarely variola and erysipelas, and they cause metastatic ophthalmia, unilateral or bilateral.

Here the affection frequently assumes the form of an infectious retino-hyalitis, often accompanied with a retinal apoplexy, and without reaction or pain, terminates in destruction of the retina and atrophy of the globe. M. Panas thinks that the irites, choroidites and retinites, whether plastic or serous, may owe their orign to microbic poisoning derived from organs more or less distant. On viewing patients from this point of view particularly, it will be discovered that in dyspeptics, those subject to constipation in chlorotic, dysmenorrheic, leucorrheic women, and during the menopause, conditions arise which create infection by the diffusion in the blood of organic toxines, and pregnancy itself is among them. Obstruction of glandular secretions contributes largely, and in fine, eruptive fevers, paludism, dysentery, etc., besides their immediate deleterious effects, leave pathological modifications and changes in cell-life, from which, from time to time, auto-poisoning may be derived. Different types of maculated chorio-retinites may be added to these endo-infections, whether derived from acquired or congenital syphilis, as also from the menopause, from intermittent albuminuria or glycocuria, and are of toxic origin. In true albuminuric, glycosuric and lycemic retinites, the toxines and microbes may intervene in turn. Do we not know that certain substances, such as naphthaline and menthol, when administered to rabbits by the digestive organs, cause lesions of the retina such as those of albuminuric retinites? On the other hand, alcohol, tobacco, lead, the sulphide of carbon attack in preference the optic nerve and the brain. There is then no temerity in admitting that different toxines when contained in the blood can act of themselves, and M. Panas cited in support of this an observation of double neuro-retinitis consecutive upon rougeola.

Tuberculosis may attack the anterior or posterior segment of the ocular globe. In the anterior segment it assumes a cheesy form, and as respects the choroid and the retina, acute tuberculosis is more frequently seen coincident with that of the meninges. Tubercular endo-infection exercises its action upon the cornea in an indirect way only, through the intermediation of the uveal tract, which is its seat of preference. From recent observations, many interstitial keratites, called heredo-syphilitic, seem to be of tubercular origin. Leprosy also attacks the eye, the ciliary body of the iris especially, and from it invades the cornea. As at this point there exists a double endosmotic and exosmotic current, it is readily seen that the bacilli and the virus would naturally become fixed there. A common source of infection is derived from the mucous membranes; among others, those of the genital passages in both sexes. We know that gonococcic infection acts from a distance upon the serous and mucous membranes, the conjunctiva, the optic nerve, also upon the iris and choroid. Another locality of the gonorrhœal virus is the lachrymal glands—acute and chronic dacryoadenitis. The naso-pharynx and the cranio-facial sinus constitute a very common source of infectious disease to the eye. Ozena plays the principal role, and iritis and chorio-retinitis often depend upon it; it may cause phlegmon or periostitis of the orbit.

The microbes and the toxines act by metastasis, following the lymphatic and blood currents which go from one cavity to the other, and the naso-orbital metastasis shows itself by a sarcomatous mass in the last region. As re-

gards the optic nerve, the infection of nasal origin acts in different ways. Most frequently it originates from an infected sinus, particularly the sphenoidal, producing inflammation and afterward atrophy of the optic nerve; certain ethmoidal inflammations act in the same way. The mode of propagation varies; sometimes there is an orbital phlegmon or a bacillar meningitis. The pharynx is another point of departure for ocular infection. It is only necessary to recall the paralysis of diphtheric origin and that of certain extrinsic motor nerves of the globe from the same source. In one case M. Panas saw a gangrenous inflammation of one of the tonsils cause a double orbital thrombophlebitis. Suppurations of the middle ear likewise produce this affection. The same with furunculus of the face, especially the lips, forehead and eyelids. This is most generally a staphylococcic infection. Passing on to the investigation of sympathetic ophthalmia, M. Panas demonstrated by experiments upon rabbits, that microbes, when injected into the general circulation, more easily penetrate the irritated or congested than the sound eye. In sympathetic ophthalmia the eye first attacked will act upon its fellow by way of the vaso-motors, and will predispose it in this way to the localization of an infectious toxæmia. Thus may be explained the two varieties of sympathetic ophthalmia; one in which the sympathetic troubles are purely functional, the other when they accompany organic lesions. From this last alone can endo-infections originate.

DISCUSSION.

M. Trousseau: In 1887 I affirmed that retinites were only a symptom of slow poisoning, that they were not due to the presence of albumin in the urine, but should be ascribed to a retention in the blood of the products of disassimilation of different poisons engendered by the organism itself. In 1894 I published an observation of catamenial iritis accompanied with hypopion, in which I demonstrated the infectious origin of the malady, and the special role of the uterine cavity. To-day, thanks to the theory of auto-intoxication, we can comprehend the reason why iritis should accompany the appearance of the menses, the aggravation of nearly all the ocular diseases to which women are subject at the period of menstruation, and the genesis of choroiditis from the menopause. In 1886 I reported a case of blennorrhagic conjunctivitis without inoculation and ascribed it to an infectious origin. Now the part played by blennorrhagea as a generator of iritis and of iridochoroiditis is fully established, as also of certain retinites which may beyond a doubt be designated as blennorrhagic. In 1889, in the "archives d'ophthalmologie," I insisted that ozena determined infectious ulcerations of the cornea without any alterations of the lachrymal passages. Very extensive investigations, pursued at length, upon interstitial keratitis, have induced me to consider it as of syphilitic origin, in spite of the works of Hippel and Pflueger. M. Panas thinks that it is often due to tuberculosis, and I cannot refrain from presenting the following fact: A child of seven years was attacked with double interstitial keratitis, there were cutaneous lesions, a white tumor, habitual comatose tendency as in the beginning of meningitis, all of which disappeared under an active mercurial treatment.

In the "annales d'oculistique" of 1894 I insisted upon the importance of auto-intoxications of gastro-intestinal origin as causes of iritis, of sclerites of doubtful origin, showing, too, that in gouty and rheumatic subjects, if the diathesis predisposes to the development of ocular troubles, the determining cause should be looked for in the condition of the digestive organs.

Toxic urinary conditions also produce ocular complications. In fine, the ocular consequences of auto-infection are innumerable, and in cases in which their origin is doubtful, its source should always be closely investigated. But it should not be always invoked to explain all the phenomena and all the reactions which escape us at first sight. That would be an abuse of a theory that is a little too seductive because of its simplicity.

ACADEMY OF SCIENCES.

Radical Cure of Hernia by Injections of the Chloride of Zinc.—Dr. Demars added a new feature to Prof. Lannelongue's treatment of inguinal hernia, which consists, as is known, after the reduction of the hernia, of injections of the chloride of zinc over the pubis behind and without the cord, and which reinforce the anterior wall of the inguinal canal. In order to increase the chances of obstructing the canal entirely, M. Demars proposed to apply the injections to the pectineal ligament itself; he reported six cases of success in six operations.

Radioscopy in the Diagnosis of Thoracic Affections.—M. Bouchard completed his previous communications upon this subject. Radioscopy has enabled him to diagnose many cases of aortic insufficiency; the normal pulsation of the heart cannot be seen, but when the aortic valves are attacked with insufficiency, radioscopy shows very clearly the systolic movement.

Operative Results Consecutive Upon Subperiosteal Resections Clearly Shown by Radiography.—M. Ollier, of Lyons, has had but few opportunities of making autopsies of old operations, so that the reformation of bone could not be observed satisfactorily. But thanks to Röntgen rays, the want has been supplied. He exhibited to the Academy a number of photographs taken of old operations. There was complete obscurity in the place of the removed bone, proving that the osseous tissue had reformed. In two children in whom he had removed the lower part of the tibia and astragalus, the tibia was perfectly reformed, but in place of the astragalus a very resisting fibrous tissue had been deposited which permitted the light to pass; the children walked very well, thanks to the newly formed tibio-calcanean articulation.

The Causes Interfering with Growth Shown by Röntgen Rays.—M. Potain presented the following communication. On examining the knee and the uniting cartilage of the tibia and femur, it presented the appearance of a clear and transparent zone, which diminished in proportion as growth progressed, and disappeared completely when the cartilage became infiltrated with calcareous and ossified salts, which result definitely arrested the growth. The investigation was for the purpose of determining the condition of the cartilage in the different arrests of growth attributable to different causes. The most remarkable fact was furnished by myxœdema. In this disease, radiography showed that the uniting cartilage remained a long time unossified; in effect, the thyroid treatment extended it to thirty-four years. This persistence of the infantile condition of certain organs well accord with the fact recently stated by Dr. H. Vaguez, the presence of nucleated red globules revealing the presence of the fœtal processes of hematopoiesis. In hereditary syphilis the arrest of development appeared to be due to a tendency to ossification, but the cartilage continued. In children of alcoholic parents it was thin, irregular and prematurely ossified. Per contra, in tuberculosis, hereditary or acquired, the cartilege continued and its ossification was delayed. A great number of diseases produce alterations in the disposition of this cartilege and in its mode of ossification. Radiography adds to the study of the troubles of growth, a new physical sign easily appreciable and very useful in diagnosis. This investigation can guide the treatment besides, since as long as the cartilege presents a transparent zone the arrest of growth may be combatted, while if the cartilege be opaque all treatment with the view of increasing it is useless, the growth having been arrested definitely.

FRENCH SOCIETY OF OTOLOGY, LARYNGOLOGY AND RHINOLOGY.

Treatment of Ozena.—M. Moure, reporter. The clinical forms in which ozena presents itself may be divided into five groups.

First: The adenoid form. In consequence of adenoid vegetations that favor the arrest of the secretions and their decomposition in the interior of the nose. Treatment, removal of the hypertrophied pharyngeal tonsil.

Second: The sinus form. Due to suppuration of one or more of the accessory cavities of the nose. Treatment should be directed to the annexed cavities; this form is rare.

Third: Necrose form. If it be determined that the ozena is due to lesions of the ethmoidal system, the treatment would consist in exploring with a stylet the parts affected with a purulent osteitis with necrosis, curette

them and remove them with cutting forceps to suppress the origin of the suppuration and the ozena.

Fourth: Purulent form. Observed in young children and adolescents, who will become ozenatous later on, and characterized by the expulsion of a quantity of greenish and very liquid matter, swelling of the inferior and middle turbinated bones. Treatment, nasal irrigation.

Fifth: Atrophic ozenatous form. The true type of the disease, characterized by considerable enlargement of the nasal fossæ, resulting from atrophy of the mucous membrane and of the osseous tissue, and by the existence of secretions that have a tendency to decomposition, with the characteristic fetor of the disease.

Are the short, encapsulated bacilli, described by Löwenberg in 1882, the cause of ozena? He thinks they are, but more recent communications of Berfanti and Vedora have shown that by the side of the encapsulated bacillus there was another microbe, which is no other, according to them, but the pseudo-bacillus of diphtheria, and hence the idea of treating ozena with the anti-diptheric serum of Behring-Roux.

Cozzolino uses a curette with which he scrapes the mucous membrane in order to cleanse it of the elements that are necessary for the development of the lesions of ozena. Gottstein introduces medicated tampons into the nostrils to diminish the calibre of the nasal fossæ. As a mode of treatment, this is only an adjuvant because ozena is not due to enlargement of the nasal fossæ-caoutchouc drains. Tedenat of Montpelier and medicated bougies are usually employed in Vienna. Insufflations and antiseptic powders are inadmissible, because they favor the formation of crusts. Irrigations and washes constitute the most popular and universal treatment. Vibratory massage—Braun, Laker, Garnault—is slow in its effects, and difficult of application; cauterization should be ignored. General treatment: In the ozena of anæmics, iron in some form, other remedies may be employed, viz., quinine, kola, gentian, digestive stimulants, nux vomica, arsenic, etc. In scrofulous subjects, cod liver oil, preparations of iodine, sulphur, salt bathing, general tonic regimen. Local treatment. Remove crusts by decortication of the mucous membrane with phenic glycerine locally applied by suitable instrument, then detersive nasal injections, pulverizations of nitrate of silver 5 to 25 per hundred. Method of Medjes, Amsterdam.

MEDICAL SOCIETY OF THE HOSPITALS.

Rheumatism Treated by Local Application of the Salicylate of Methyl.—M. Lemoine recalled the experimental researches and observations of MM. Linossier and Lannois, who were the promoters of this method. The application of the remedy to the cutaneous surface acts upon the acute articular rheumatism as salicylate of methyl does when taken internally, and seems to produce a more rapid diminution of the pain. Its employment in the dose of 10 to 12 grammes is not followed by vertigo, trouble in the ears nor nausea, as is often seen from the internal administration of the salicylate of soda. The application of 20 grammes did, on one occasion, produce cephalalgia. The drug is eliminated by the urine in the form of salicylic acid absolutely in the same proportion as the salicylate of soda when administered by the mouth, and the quantity thrown off is equal to the tenth of the quantity absorbed. The salicylate of methyl is employed in the form of the essence of wintergreen, which contains 90 per cent. of this salt. The application is made by a compress to as large a surface as possible, soaked in the essence, enveloping the limb completely and closely bandaged. The good effects are not so much from the contact of the medicine with the painful parts as from its rapid absorption by the circulation; it has the same certainty of action as the salicylate of soda, and is especially indicated when there is disorder of the stomach; it should therefore replace the other remedy.

M. Siredy employed the same method in ten cases of rheumatic arthropathy with equally good results. He also proved that the remedy acted better than the soda in non-febrile cases. In the febrile forms—puerperal and blennorhagic—the pain especially is relieved by the treatment. As respects the dose, he never exceeded 4 grammes, and was satisfied with 25 drops twice a day. Never observed any intolerance except ringing in the ears. Has employed it in the atrocious pains of ataxia and obstinate sciatica; it relieved the necessity for injections of morphine. M. Legendre applied the treatment to ten cases, and approved it, particularly in sub-acute attacks. To some patients the odor of the remedy was objectionable.

M. Siredy: To obviate the last the bandaging should be hermetically sealed, and there are many varieties of the wintergreen.

M. Lemoine was particularly struck with its efficacy in sub-acute or chronic cases.

M. Linossier: In cases of neuralgia, neuritis and various articular pains the salicylate of methyl will succeed where the soda will fail. As regards the absorption, it is done by the skin, and it is when pulmonary absorption is wanting that more salicylic acid is found in the urine.

Tricuspid Insufficiency of Rheumatic Origin.—M. Chauffard reported the case of a man of forty-eight years affected for thirty-three years with acute articular rheumatism. Six months afterward first cardiac symptoms, with palpitations and dyspnœa appeared; since then many attacks of slight asyotole. No dilatation nor hypertrophy, normal projection of theracic wall. Rough, rasping, souffle, clearly systolic at base of zyphoid appendix. The souffle not due to aortic nor mitral lesion, it is then consequent upon tricuspid insufficiency. Diagnosis, old tricuspid valvulitis causing insufficiency of the tricuspid valve. There is absolute tolerance of the venous system, no jugular stasis, no venous pulse, very marked pulsations of the liver causing a certain degree of sanguineous regurgitation. But that organ is not disturbed functionally, as attested by the absence of urobilinuria and glycosuria.

J. A. C.

OVARIAN ABSCESS—OPERATION—RECOVERY.*

By August Schachner, M. D.,

Demonstrator of Anatomy in the Louisville Medical College, Visiting Surgeon to the Louisville City Hospital, Etc., Louisville, Ky.

This is a specimen taken from a woman operated upon at my infirmary last week. She was forty years of age, married, but had never borne any children. She gave the history of some uterine trouble, pain on each side over the ovarian regions, temperature ranging from 99° to 101° Fahr. This condition of affairs had existed for two weeks prior to the operation. She was brought to the infirmary four days before the operation.

The husband of this woman had contracted gonorrhœa two months previously—that is, two months before the onset of the symptoms narrated—and had intercourse with his wife in the mean time.

The diagnosis made was a small fibroid of the uterus, with some suppurative condition on each side. No distinction was made as to whether the trouble was gonorrhœal or not. I began by preparing the vagina by proper cleansing, believing that the probabilities were the ovarian disease was bilateral, and that it would be necessary to remove both ovaries, tubes and uterus, making a complete operation. In cleansing the vagina the first day I made a careful examination and found some little discharge from the uterus, and at each succeeding day's cleansing the discharge seemed to be a great deal more than upon the preceding disinfection. The vagina was irritated quite early on the day of operation, it being done very thoroughly by the nurse, and the vagina packed with iodoform gauze. Then the patient was put on the operating table, the gauze was removed and the vagina and uterus irrigated with peroxide of hydrogen followed by bi-chloride of mercury solution. The vagina was again packed with iodoform gauze, and the woman then placed in the Trendelenberg position for the operation.

Opening the abdomen I found the adhesions quite extensive, requiring a careful separation. I found a large ovarian abscess upon one side embedded in a mass of ad-

* Reported to the Louisville Clinical Society.

hesions. The tube was carefully tied off, and together with the ovary was removed. The appendages on the opposite side were found to be only slightly diseased, but were ligated and removed, leaving the uterus behind. Little trouble was experienced during the operation, notwithstanding the adhesions were very firm. The pelvis was flushed out with salt solution and the abdomen closed. Her temperature before the operation was between 99° and 100° Fahr.; the operation was completed about 12 o'clock and consumed about one hour's time. She left the table with a pulse over 100; pulse before the operation about 90 to the minute. During the night of the same day her pulse went up to 156; temperature to 104° Fahr. This high pulse and temperature persisted for several days, notwithstanding the fact she was given hypodermic injections of digitaline 1/100 grain, nitro-glycerine 1/100 grain, strychnine 1/20 grain, combined into one injection, and repeated every two or three hours at first, the intervals becoming longer between injections as she improved in condition. By the end of the fourth day the pulse and temperature had been reduced to normal and her convalescence has been uninterrupted. There was at no time any symptom that I could attribute to the operation, such as distension or disturbance of the bowels. The bowels were quite obedient; they responded to enemata, and there was very little nausea, except the day after the operation, which was probably due to the anæsthetic. After enucleating the tumor, there was a small bleeding point low down on the posterior surface of the uterus that was not very readily controlled, so I packed Douglas's pouch with iodoform gauze. The gauze was removed the following day and the cavity aspirated, only a small quantity of bloody fluid being evacuated; then a small piece of iodoform gauze was pushed down as far as it could be conveniently gotten. There was no blood in Douglas' cul-de-sac. When the stitches were removed on the seventh day there was no sign of stitch abscess, but two or three days later a little pus was visible at one of the stitch holes. I believe that the infection was due to gonorrhœa, but that could only be positively proven by microscopical examination, which has not been made. In my opinion, there was a latent gonorrhœal focus, and the traumatism caused by manipulation was sufficient to produce further manifestations of the disease. I say this because the uterine discharge was very slight at first, becoming more and more up to the time of the operation. I believe that the gonorrhœal poison was taken up by the lympathic system producing an intoxication which was dependent upon the trouble in the uterus, very likely gonorrhœal in character. Otherwise I hardly see how such a state of affairs could have been brought about within twelve hours. If the symptoms had come on gradually the case would have been more easily understood. I believe the trouble to have been due to some form of infection, probably gonorrhœal, stimulated by the manipulation or traumatism of the operation, the poison being taken into the system through the lymphatic channels, an intoxication we may say from absorption of the poisonous products.

Dr. Louis Frank: Was the temperature observed before the operation, and was there any escape of pus from the tube or ovarian abscess at the time of the operation?

Dr. August Schachner: There was no escape of pus from tube or ovary and the signs of sepsis can be seen in the foregoing.

Dr. W. H. Wathen: How much iodoform gauze was used, and in what strength?

Dr. August Schachner: Directly after completing the operation I packed the cul-de-sac thoroughly with gauze, which was removed the following day. Then only a small strip was introduced as a precautionary measure; strength 10 per cent.

Dr. W. H. Wathen: I do not believe that sepsis in any form had anything to do with this rapid and quick elevation of temperature and acceleration of pulse. It is to my mind a case of iodoform poisoning or iodoform intoxication in a woman who was very susceptible to the influence of iodoform. You will find people differ widely in this particular. You may put a large quantity of iodoform gauze in some cases in contact with raw surfaces in the peritoneal cavity or upon any part of the body and no trouble will result. In the case of another person you may use but a small quantity and the most distressing symptoms will supervene. I remember in one instance in opening a sinus leading into a perinephritic abscess where there was a large raw surface, I packed the wound with iodoform gauze, and within a few hours the patient had a temperature of 104 F., with pulse correspondingly high, which continued for two days, but was cut short by removal of the gauze and thorough irrigation of the cavity. In my experience in surgical work the usual symptoms of iodoform poisoning are great acceleration of pulse, elevation of temperature and decided restlessness.

Dr. W. C. Dugan: I fully agree with what Dr. Wathen has said, and with him believe this is a case of iodoform poisoning. I have had several cases in some respects similar to the one reported. I removed the upper jaw of a man at the St. Joseph Infirmary a few years ago; the next day his pulse ranged from 150 to 170 per minute. He was unable to sleep, was very restless, but suffered no pain. His temperature went up to 103° Fahr. by morning and by evening of that day 104° Fahr., and I felt very anxious about him, for I had not met with any of these cases up to that time. I had packed the space from which the jaw had been removed with very strong iodoform gauze. It was removed and the symptoms gradually subsided, and aside from an uneasy state of his mind he at no time felt badly. There are three different forms of iodoform poisoning. One is where the patient has a very rapid and feeble pulse, another is generally associated with elevation of temperature, another is where the two symptoms mentioned may be present, and in addition to this the patient has hallucinations of various kinds. Any or all of these symptoms may be present in the same case, or there may be but one. I recently operated upon a patient, removing the parotid gland, and packed the wound with a liberal amount of iodoform gauze; the patient developed within a few hours marked symptoms of iodoform poisoning. High pulse, delirium, etc., hallucinations of sight and hearing.

The gauze was removed the following day, and there was rapid improvement in all the symptoms. There is no doubt in my mind about the cause of these symptoms that troubled Dr. Schachner so much, since each and every one is accounted for by recognized symptoms of iodoform poisoning, while upon the other hand, to account for them by some mysterious action of the gonococcus, its array of symptoms, but very few ever heard of in such connection, and still fewer possess any faith in them, while it taxes the imagination to account for them by septic intoxication or septic infection.

Why, then, search through the whole list of theories to find something to explain, when the clinical history and symptoms are strictly those of iodoform poisoning. Drs. Frank and Schachner and others have stated that elevation of temperature does not belong to iodoform poisoning. I was surprised at such a statement when they said it caused subnormal temperature, when all authorities on the subject have been in support of the former clinical fact, and if you will consult the latest and best work on surgery ("Park's System of Surgery"), a work from the pen of our best writer and teacher, and so new that it is just off the press, you will find elevation of temperature mentioned as one of the symptoms of iodoform poisoning and with the others that Dr. Schachner found in his case.

Dr. F. W. Samuel: I am of the opinion that the explanation given by the two previous speakers is the correct one. As to the cause of high temperature in Dr. Schachner's case, a similar one has occurred in my own practice. The symptoms are very typical of iodoform intoxication. In this connection I would call your attention again to the paper I read before the society on draining the peritoneal cavity with iodoform gauze and the great danger we encounter of iodoform poisoning. I tried to emphasise the fact that iodoform poisoning was much more frequent than we were inclined to think and stated the caution with which it should be used, especially when large quantities were used in the peritoneal cavity, and also called attention to this point as noted by Senn and others, where large raw surfaces (as in Dr. Schachner's case) were to be drained, we

should use as little iodoform gauze as is possible for fear of absorption during the first few hours, which is the danger period, awaiting the protective granulation surface.

Dr. Louis Frank: The case reported by Dr. Schachner is a very interesting one, and I am not inclined to believe that it is a case of iodoform poisoning. My own experience, in cases of iodoform poisoning is that while we have a rapid pulse and often hallucinations or delusions, we do not have elevation of temperature.

The iodoform must necessarily be absorbed into the system to produce symptoms of iodoform poisoning, and this might be easily understood where we have extensive raw surfaces which are packed with iodoform gauze in full strength. In the case reported I take it the trouble was due to absorption of poisonous products which took place prior to the operation; this woman had an acute septic process as shown by the temperature and her condition previous to the operation. We know that the gonococci do not always cause an infection of this kind, but they sometimes do so. In this case there was an acute gonorrhœa, and we know that in acute gonorrhœa we may have an infection which would produce symptoms such as Dr. Schachner has described. We may have an infection of the peritoneum with the disease in the acute stage; we may have absorption at this stage of the poisonous products of the disease with symptoms such as have been described. We know further that gonorrhœa in the acute stage is perfectly capable of setting up an acute peritonitis, sepsis and death. I have made an autopsy and reported such a case, where the only organism found in the peritoneal cavity was the gonococcus. Another case of the same character has been reported by Richardson, of Boston, following, I think, an operation upon a bubo in the acute stage of gonorrhœal infection. A gonorrhœal peritonitis was set up which terminated in death. Another case has been reported by another surgeon who operated for the same condition, death resulting from acute peritonitis. I believe this organism in the active stage of virulence, when introduced or absorbed into the peritoneum may set up acute sepsis. We have here all the conditions favorable to absorption; and just such symptoms may develop as we have in other septic troubles. I am free to confess, however, that we may often have escape of pus from a gonorrhœal pus tube into the peritoneal cavity without the production of any bad results, but we must remember that such cases are usually not operated upon in the acute stage, and the pus is therefore not virulent. While the pus contained in a gonorrhœal pus tube might be virulent in the acute stage, we know it is non-virulent in the later stages, from the fact that it may escape into the peritoneal cavity without any harm resulting. The same rule holds good, however, in streptococcus or staphylococcus infection; in these forms of infection the organism having probably died off. We must remember also the great probability of secondary infection with other pyrogenic organisms in all cases of gonorrhœal metritis and salpingitis, and especially in the class of cases as the one reported—a toxæmia may thus easily be set up, so I take the case to be one of toxæmia due to the gonorrhœal organism alone, or in conjunction possibly with those present as a result of secondary infection.

Dr. W. H. Wathen: Do you mean to say that we may have septic infection from the gonococci?

Dr. Louis Frank: Yes, sir; this has been proved time and again.

Dr. Carl Weidner: In infection from the gonococcus it is my opinion that we do not have a septicæmia in the sense that we have the presence of septic organisms in the blood; we use these terms frequently, it is true, but I believe sepsis so considered is a misnomer; it is not a septicæmia but a toxæmia. I can easily understand how we might have a toxæmia developed in twelve hours from a condition such as has been described by Dr. Schachner; the uterus was enlarged, discharging a muco-purulent or muco-sanguineous material, and the absorption of toxic products might easily have occurred, by reason of the manipulation surgically, the removal of the tubes, ligating some of the vessels, possibly damming up the retained local poisonous products. Such a procedure would favor the absorption of poisonous material in quantity sufficient to produce a toxæmia, which would in turn cause the high temperature and rapid pulse as has been described. Again the secretions of the uterus may have been blocked by the tampon, which would favor absorption into the general system.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Gelsemium for Ovarian Pains.—Dr. Talleo (*Coll. & Clin. Record*) frequently calls attention to the value of gelsemium for the relief of ovarian pains, which are due to no apparent change in the position or structure of the ovary. The fluid extract is the preferable preparation, and is best given in doses of from one to two drops, combined with a drachm of the fluid extract of viburnum prunifolium, this dose to be repeated four times daily.

Opium and Cocaine in Cancer.—Dr. Herbert Snow (*Med. Times & Gazette*) has found good results to accrue from the combined use of these drugs in the treatment of the more chronic form of disease, and in cases where recurrence was probable. The growth of the tumor is retarded and some improvement even may take place. The cocaine also exercises an anæsthetic effect. Morphine may be given, beginning with three-fourths of a grain or one grain three times a day. Cocaine may be added, in one-half to one-grain doses once or twice a day.

Alcohol in Typhoid Fever.—In a recent address on "Stimulants in Acute Disease" (*Amer. Practitioner and News*, May 1, 1897), Prof. H. C. Wood said that in typhoid fever the general consensus of opinion was that alcohol was of great service, but there was still a question as to whether alcohol could be rightly regarded as a cardiac stimulant. The most that could be said was that it was a very mild stimulant to the heart. In this regard it could not be compared with cocaine, strychnia and other drugs. Notwithstanding this fact, however, it was undoubtedly a most useful remedy in typhoid. It was probable that it had the effect of increasing the resisting power of the tissues and also that it is to a considerable extent germicidal. There was another very curious thing about alcohol which set it apart from all other drugs. Opium and other agents, when taken into the system, carried their message to the nerve centers and were then gradually eliminated; but alcohol, when once taken in, never came out. In health if we gave a man a wineglassful of whiskey or brandy, it could always be detected in the breath, but this was not the case in typhoid, if the alcohol was properly given. Here, then, was a useful point in the administration of alcoholic stimulus in this disease. If in any case the odor of alcohol could be detected in the breath, we could be sure that we were overdoing the matter, and that the patient's system had not the ability to make use of all the stimulant given. In typhoid, alcohol acted not only by furnishing resisting power, but also by repairing the tissues which were being burnt up by the force of the disease.

Neuritis Cured by Local Compression.—Peripheral neuritis of traumatic origin is apt to be exceedingly rebellious to either medical or surgical treatment, but Delorme, the *Bulletin Medical* says, has invented a new cure which has proved a perfect success in each of the ten cases in which he has tried it, and its efficacy has also been confirmed by others. His first case was a soldier wounded in 1870 by a bullet in the neck. A keloid scar has formed where it had emerged close to the posterior border of the sterno-mastoid, three by four centimetres in size, which had been the seat of continuous pain ever since; that is, for twenty-three years. No relief had been derived from the use of the thermo-cautery, bistoury, galvano-cautery, Vienna

caustic, etc. Delorme conceived the idea of destroying the nerve tissue in the cicatrix by forcible compression. Seizing it between the thumb and forefinger of each hand, he squeezed it with all his might for a few seconds. Four days later he repeated the operation, and the pains vanished and have never returned during the three years since. The other cases were of more recent occurrence, but they had resisted all other treatment, and the same forcible compression produced complete cure. In case of pain in the finger after a partial amputation, opening of a phlegmon or a crushing bruise, he first carefully locates the exact limits of the hyperæsthetic zone, and then the patient, seated or reclining, held by the assistants, the arm and wrist immovably fastened, he seizes the finger between his two thumbs and forefingers, and exerting all his strength, compresses successively every spot on the entire surface of the hyperæsthetic zone, commencing with the most painful points and exerting there the maximum pressure. A few seconds exhaust both operator and patient, as the process is very painful. After a few minutes' rest it is repeated by the operator or one of the assistants, sometimes two or three taking it in turn. One operation is usually sufficient, but sometimes as many as three are required at intervals of several days. The trophic troubles, cyanosis, œdema, stiffness in the joints, etc., disappear with the pain. Delorme has never used an anæsthetic for fear of interfering bulbar reflex, but suggests that chloroform or local anæsthetics might be used.

Lemon Juice in Ophthalmia Neonatorum.—Josef Szawelski (*Gazeta Lekarska*, No. 38, 1896; *Brit. Med. Jour.*) fully indorses Pinard's statement that instillation of a few drops of fresh lemon juice into an infant's eyes immediately after birth, is an excellent means of preventing purulent ophthalmia. The instillation is said to be quite painless. As a rule the juice does not cause any conjunctival irritation. Only now and then there may appear slight catarrhal phenomena, which, however, quickly subside without any treatment. The writer emphasizes such advantages of the method as its simplicity, harmlessness, etc.

Turpentine in Parotitis.—Dr. Holden, in the *Massachusett's Medical Journal*, states that turpentine in the usual doses, according to the age of the patient, is a specific against mumps. The patients quickly recover, and without metastasis to other organs.

The Rational Treatment of Pulmonary Phthisis.—In the prevention and cure of consumption, as well as in the endeavors to arrest and retard the progress of advanced cases, says Dr. J. Hobart Egbert (*Med. Summary*, July, 1896)—attempts must be made to overcome the etiological factors leading to malnutrition, to bring the reconstructive processes of the body above the destructive, and to supply the tissues with wholesome, sustaining nutriment: All this is to be gained by maintaining every organ of the body in the best possible condition, by securing the best environment, by the liberal use of easily assimilated, tissue-building and strength-sustaining food, and by recourse to tonics, reconstructives and certain special remedies which act directly upon those nerves which govern tissue metabolism. All acute pulmonary disorders, however slight, should be promptly relieved, and all existing affections of the nose and throat should be made the objects of careful treatment. Next in importance to the care of the respiratory organs may be mentioned due attention to the digestive functions. Nervous disorders and circulatory defects must likewise receive proper consideration and treatment.

The environment is of importance. Not only should the sanitary conditions of the residence be well appointed, but it should be properly located, both as to local and meteorological conditions. The best climate is evidently that which possesses the following conditions: Dryness, equability of temperature, absence of winds, abundance of sunshine, porous oil, frequent electrical changes, water, pure in quality and plentiful in quantity, and pine odors. Change of climate is frequently a source of much benefit. This consists in an increase of bodily weight and an amelioration of symptoms; in other words, improvement in the general condition, a matter of particular importance in the early stages of the disease.

General hygienic and dietetic measures are of the utmost importance. Fresh air and exercise, so far as the powers of the system will permit; free ventilation of both living and sleeping apartments; avoidance of crowded, overheated and damp places; keeping within doors in bad weather and after dark, the wearing of warm clothing with flannel next the skin, proper attention to bathing, the use of as nutritious diet as can be assimilated, the avoidance of all injurious habits and excesses, etc., are all embraced in the rational method of treating this and other diseases.

Among the various therapeutic measures recommended for the general treatment of consumption, cod-liver oil heads the list. Cod-liver oil not only exerts a direct beneficial action upon the lungs, but is essentially a reconstructive tonic and nutriment. The preparation known as Hagee's Compound Cordial of Cod-liver Oil is a most admirable and available preparation. It is very pleasing to the taste, and combines the curative virtues of cod-liver oil and the hypophosphites of lime and soda with the tonic properties of a rich, light wine. Alcohol, in its various forms of fermented and distilled liquors, is indicated in every case of consumption, and its most eligible form in this disease is wine. Alcohol is not only a stimulant, but also a nutriment and an antiseptic. Consumptives suffer from irritable weakness of nearly all organs, and it follows that their nutriment, whether solid or fluid, must not be monotonous and non-stimulating, but, on the contrary, carefully stimulating. For this class of patients, at least, alcohol should never be given in quantities sufficient to produce its baneful effects of dizziness and of excitation followed by depression. The small amount of wine existing in Hagee's Compound Cordial of Cod-liver Oil is just sufficient to arouse the organs of digestion, to assist the absorption of the cod-liver oil and such other food products as are taken into the system, and arrest the too rapid metamorphosis of tissue.

Aside from wine, brandy and good bourbon whiskey have their uses in the treatment of phthisis, but these uses are concomitant with special indications arising in individual cases.

Finally, there must be employed a remedy, or combination of remedies, that will stimulate those centers which govern bodily nutrition. We believe the use of such a remedy, together with the administration of a proper preparation of cod-liver oil—as already pointed out—to be essential to the rational and successful treatment of consumption. Strychnine is such a remedy, and when combined with atropine becomes of great value. Cinchonidia may also be added when there is pyrexia to overcome. Our formula is as follows:

℞. Strychniæ sulphatis.....gr. 1-2
Atropiæ sulphatis.....gr. 1-4
Cinchonidiæ sulphatis..... ʒ ij
Ext. genti æ..... ʒ ss
Misce bene. Fiat massa et in pilulas No. lx (60) dividenda.
Sig.—One pill night and morning.

N. B. These pills should be prepared with great care to insure uniformity in the distribution of the alkaloidal ingredients.

A dose of the compound cordial of cod-liver oil is taken with meals, and one of the above pills is taken an hour after breakfast and another before retiring at night. When pyrexia is aggressive, quinia may be substituted for cinchonidia; when absent, both may be omitted. Should dryness of the throat occur in cases where there are no night sweats the atropine may be omitted. Some few cases with marked dryness of the mouth and throat may even call for the occasional administration of gr. 1-8 of pilocarpin per os.

In extreme pyrexia and depression, iron, quinine and strychnine may be required. Here is a good mixture:

℞. Ferri et quiniæ citratis..... ʒ j
Strychniæ sulphatis.....gr. 1-6
Aquæ puræ..... ℥ j
Syr. acidi citrici, Q. S. ad..... ℥ iv
M. Fiat solutio.
Sig.—Teaspoonful in wineglassful of water after meals.

Where the above is given, the pills are to be omitted

and the cod-liver oil administered before or during the meals.

The so-called "antiseptic method" of treating consumption seems to be largely based upon a fallacy; nevertheless, the internal administration of salol is often productive of good results when conducted together with the rational methods herein set forth. Likewise, hypodermic injection of a solution of phenol and inhalation of vapors containing eucalyptus, tar, benzoin, etc., are sometimes worthy of trial. Creosote, internally administered, is of great value in overcoming cough and allaying irritation in the air passages. It may be administered in mucilage of gum acacia, together with syrup of wild cherry or tolu or dissolved in wine of tar.

To recapitulate: The rational method of treatment endeavors to equalize vital forces, to raise tissue nutrition to the highest possible point, to overcome those conditions which render the disease possible, and to eradicate or relieve local lesions.

RETROSPECTIVE DIETETICS.

The Diet in Chronic Diarrhœa of Infants.—Angel Money (*Treatment of Diseases of Children*) says if the child be under one year of age the diet must not go beyond the range allowed at that period of life. Barley water and whey, perhaps milk according to circumstances and Mellin's food, raw meat juice, white of egg or yolk of egg with water, mutton broth, weak beef tea, is a sufficient list of foods. It is generally asserted that animal broths are deleterious in diarrhœa, used in small quantities cold. He has not noticed any prejudicial effect, and certainly the number of stools has not appeared to be increased.

Dyspepsia Proof.—Much is said about American dyspepsia, but there is one native race of America that is certainly not greatly troubled by the modern curse, says *Popular Science News*. The sturdy little Esquimaux defy all the laws of hygiene and thrive. The Esquimau, like the ordinary dweller in America, eats until he is satisfied, but there is this difference, that he is never satisfied while a shred of the feast remains unconsumed. His capacity is limited by the supply, and by that only.

He cannot make a mistake about the manner of cooking his food for, as a rule, he does not cook it, nor so far as the blubber or fat of the Arctic animal is concerned, about his method of eating it, for he simply does not eat it; he cuts it into long stripes an inch wide and an inch thick, and then lowers the strips down his throat as one might lower a rope into a well.

After all that he does not suffer from indigestion. He can make a good meal off the flesh and skin of the walrus, provision so hard and gritty that in cutting up the animal the knife must be continually sharpened.

The teeth of a little Esquimau child will meet in a bit of walrus skin as the teeth of an American child would meet in the flesh of an apple. And when the hide of the walrus is from one-half to one and a half inches in thickness, and bears considerable resemblance to the skin of the elephant, the Esquimau child will bite it and digest it, too, and never know what dyspepsia means.

Vegetarianism.—In a recent communication to the Société d'Ethnographie, in Paris, M. Verrier treated of vegetarianism from the point of view of its moral and intellectual effects upon the nations who, either from choice or necessity, are to be classed as abstainers from animal food. While fully recognizing the dangers of a too abundant meat diet, as well as the advantages of a purely vegetable nourishment, the speaker nevertheless felt constrained to come to the conclusion that nature intended man to be carnivorous. The physical constitution of the human race is so ordered that to insure the development of their higher qualities its members are of necessity compelled to become to a certain extent meat eaters. The attributes that make for dominion and progress are but imperfectly present among the eschewers of animal food, and hence vegetarianism causes the downfall of dynasties and leads to the enslavement of peoples. If, continued M. Verrier, the Hindus, instead of following an absolutely vegetable regimen, had made use of meat in a rational manner, perhaps the British might not have found their subjugation such an easy matter. His argument was equally applicable to the Irish, who lived exclusively upon potatoes. As for the Japanese, with whom rice was formerly the staple food, the energetic nature of this people could not be cited in subversion of the rule laid down in his thesis. The reawakening of the conquerors at Port Arthur and the Yalu River was coincident with the establishment of a trade in butcher's meat throughout their archipelago. Concerning these statements the *Lancet* remarks that with regard to British supremacy in India M. Verrier has entirely omitted to take into consideration the numerous and warlike Musselman population. In addition to whom, moreover, there are in Hindustan many millions of native meat eaters; and with regard to his Hibernian argument, surely such an erudite ethnologist cannot be ignorant of the fact that even in the most distressful cabin from Malin Head to Cape Clear the national animal may still be found. Now a pig does not yield any milk to speak of, neither can it be shorn to advantage or utilized for purposes of draught. The inference is too obvious to need elucidation.

Alcohol in Children's Diseases. — *Gaillard's Medical Journal* abstracts the following from a paper upon the subject by Dr. A. Seibert, in the *New York Medicinische Monatschrift*:

Nursing mothers should refrain from drinking beer if their infants have gastro-enteric disease.

Tea or coffee, without milk, is a better stimulant in the gastro-enteric diseases of children than is alcohol, which acts as an irritant poison in such cases.

Alcohol is contra-indicated in the typhoid fever of children, he using it only in about 5 per cent. of his cases, and then only in collapse. It has no germicidal effect upon the contents of the digestive tube, but rather increases germ life, while it retards digestion. Cases fed upon soup, water, coffee and tea recover the soonest. Those fed upon milk without alcohol do not do so well, and those fed upon milk with alcohol improve the slowest.

In pneumonia alcohol is contraindicated except to combat collapse; its continuous administration in this affection does not prevent collapse, but rather helps induce it. He believes in plenty of fresh air in the sick room, despite "the time-honored 72° F. rule."

He feeds these cases on soups, and gives water and stimulates with tea and coffee. Milk is given if it can be borne.

In scarlatina he uses alcohol only in septic infection from throat slough, and then only at night, to induce sleep and diminish the sensibility to local cleansing maneuvers, sometimes also giving an enema of antipyrin. This usually results in refreshing sleep, but when gastric disturbance has caused the withdrawal of alcohol, he has noticed no evil after effects.

Alcohol is useless in diphtheria, as it is no antidote to the Loeffler bacillus, and only adds to the myocarditis that so often causes heart failure in this disease. He has used alcohol in large doses in impending collapse for a day or two, but is not satisfied that it was the cause of recovery, and is inclined to attribute a favorable termination to energetic local measures that were begun at the same time. He has treated twenty-seven cases of diphtheria with serum, and all recovered but a child of eleven months, the only one in which alcohol had been used. For nephritis he only uses alcohol as a diuretic, giving it in small doses, and only for one or two days. It is apt to set up acute nephritis in larger doses, or even in small doses, if continued more than a day or two. It is absolutely contraindicated in gastro-enteric disturbance.

Eclampsia and the Milk Treatment.—We find the following credited to "*Ex.*," in the *Medical Review of Reviews*: Ferre insists that the milk treatment is most efficient from a prophylactic point of view, though it does not necessarily cause the other alarming symptoms, besides the fits, to vanish. He has never seen fits in a patient subjected for over a week to milk diet, nor any other trouble of a toxic origin. The alleged disappearance of albuminuria, on the other hand, does not necessarily occur.

Ferre says the same of œdema; this treatment seems to have no effect on it. Yet it is a mistake to give up the milk diet on this account, for if the treatment be continued, labor will proceed without any fits coming on, though the legs remain swollen and the urine albuminous.

Diet in Typhoid Fever.—Dr. Barrs (*Brit. Med. Jour.*) pleads for a less restricted diet in typhoid fever. Typhoid patients suffer from an extreme degree of emaciation, feebleness and prolonged disablement, and it is with the hope of mitigating these results that this method of treatment is offered. The reasons for a fluid diet in typhoid are: First, because the patient cannot take solid food; second, because solid food is thought to be harmful in the febrile state; third, because in typhoid fever solid food is believed to be not only undesirable, but absolutely dangerous. Of these the first is the only good reason, and the writer gives solid food to these patients whenever they can take it. In convalescence there is no basis for the belief that the giving of solid food induces a relapse, if the specific nature of the infection is accepted. As to perforation, no method is more calculated to delay healing and thus favor perforation than the prolonged starvation of fluid feeding. In regard to peristalsis there is no sufficient reason for believing that easily digested solid food produces more intestinal movement than does fluid nutriment. Give in typhoid fever such wholesome food, solid or liquid, as he can take, using the word "take" to mean what he likes, wishes and enjoys. To give a patient with a dry and shriveled tongue, teeth covered with sordes, semi-comatose, any solid food would be as silly and cruel as to withhold it from a patient who expresses himself as genuinely hungry and looks so, because his temperature is not normal, or because his bowels are acting a little too freely. Patients with dry tongues (not simply furred tongues), lips and teeth cannot have an appetite for anything but water. Whenever a patient can eat minced meat and enjoy it, there is never much doubt as to his recovery. The objections to the administration of solid food during the fever are (*a*), increased diarrhœa; (*b*), perforation. The author's cases show that reasonable diet of any kind has no effect on the diarrhœa, which is very variable, even with the strictest dieting. The possibility of perforation is the most important point. Perforation is not a common accident, occurring in from 2 to 3 per cent. of all cases. It may be due to (1) direct extension of the typhoid process through the peritoneal coat of the intestines; (2) undue stretching by flatulent distention when the peritoneal coat has been exposed by separation of the slough; (3) violent peristalsis, as that induced by purgatives of foreign bodies when the peritoneum only forms the floor of the ulcer. Tympanites and violent peristalsis are not more likely to occur under solid feeding than under a strictly fluid diet. If the food is digestible and the stomach is capable of digestion, it will reach the seat of typhoid lesion in the same state of fluidity as does milk. It is generally admitted that a diet of normal proportions of wholesome solid food (meat and bread) is much less likely than a fluid diet to give rise to an excess of intestinal gas. Then solid food cannot be the only cause of perforation, as it occurs when the diet is strictly regulated. The majority of cases die from conditions, as cardiac failure, lung complications, and all the effects of general infection against which the patient can set only such powers of resistance as he possesses, and whose effectuality depends upon his general nutrition.

There is too great a tendency in the treatment of typhoid fever to treat the intestinal lesion at the expense of the individual; or if not that, to make the temperature chart the sole arbiter of our practice.

The number of cases treated in the last three years has been thirty-one, and of these three died of whom not one was ever able to take solid food. No case was lost in which early feeding was adopted, and the mortality has not been so great as the average mortality of the hospital. True relapse occurred in two of the thirty-one cases. Although the number of cases is not large the results would seem to warrant a trial of this treatment by others.

Pathology of Pate de Foie Gras.—Peres has investigated he causes of the severe gastric troubles which occasionally follow the eating of this gastronomic dainty (*Med. Press and Circ.; Med. Standard*), and finds that they arise from the presence of an excess of oxalate of potassium in the goose liver. It appears that the producers of these diseased livers are wont to shorten their period of development and to produce larger livers by administering to the bird "salt of sorrel," otherwise called binoxalate of potash. This process has hitherto been kept carefully secret.

Simple Method of Distinguishing Diabetic from Non-Diabetic Blood.—This is described by R. T. Williamson, M. D., Lond. (*Med. Press and Circular*). The reaction is so sensitive that the difference can be detected by the examination of a drop of blood obtained by pricking the finger. The following is the exact process employed:

Into a narrow test-tube are placed 40 cm. of water (the capillary tube of Gower's hemoglobinometer, which is marked for 20 cm., may be used for measuring the fluid) 20 cm. of blood are added, and then 1 cm. of a 1 in 6,000 watery solution of methyl blue, and afterward 40 cm. of liquor potassa. The tube is then placed in a capsule or vessel containing water which is kept boiling. At the end of four minutes the blue color disappears and the fluid becomes yellow if diabetic blood has been used, but in the case of non-diabetic blood the blue color remains.

In over thirty examinations of diabetic blood (from five cases of diabetes mellitus) the methyl blue solution was always decolorized, while normal blood and the blood from 100 patients suffering from the most varied diseases never decolorized methyl blue when mixed in the above proportions.

Relation of Anesthetics and Body Temperature.—Schleich holds that anæsthetics are more dangerous the more their boiling point differ from the temperature of the body. He has devised an anæsthetic mixture (chloroform and petroleum ether) whose boiling point is the same as the temperature of the body, and has obtained excellent results, all disagreeable sequelæ being absent.

The Prevention of Gonorrhœa.—A. Neisser (*D. Med. Zeit.*, 1895, 69) recommends the method proposed by Blodasewski. This consists of instilling (not injecting) one or two drops of a 2 per cent. solution of nitrate of silver into the meatus after coitus, a third drop being allowed the flow over the frænulum. This is so simple that it can be carried out by any layman. Experimentation shows that a silver solution of this strength kills the gonococci.

To Remove Tattoo Marks and Nevi.—Brault (*D. Med. Woch.*) recommends a concentrated solution of chlorid of zinc (zinc chlor., gr., 45; aq. dest., 1 drachm). The scars are very thin and inconspicuous.

OBITUARY.

The profession was startled June 12th with the news that Dr. Wm. Thompson Lusk, who, until that date, had apparently been in perfect health, had suddenly fallen a victim to apoplexy in the sixtieth year of his age. Dr. Lusk was for many years professor of obstetrics and clinical midwifery in the Bellevue Hospital College. His work on the science and art of midwifery passed through many editions, and was translated into several European languages.

Dr. J. Lewis Smith, whose work on children's diseases has occupied a permanent place in the library of almost every physician for many years, died at his home in this city after a short illness June 9th, in the seventieth year of his age. By no class of physicians will Dr. Smith be more missed than by the younger members of his profession, to whom he was always ready to impart the fruits of his life-long labor in kindly consultation.

MISCELLANY.

—For boils use *echinacea angustifolia*

—For chronic gastric catarrh use papine.

—*Antimonum crudum* is an invaluable remedy in persistent vomiting.

—According to the London *Lancet*, it is never justifiable to bring on an abortion.

—Capsicum in hot infusion is claimed in the *Medical World* as a specific for hiccough.

—Every physician in Russia is compelled to wear a silver badge, indicating his profession.

—Dr. C. W. Roberts, of Scranton, recommends Thuja in five-drop doses as a specific in seminal emissions.

—Dr. Spencer Kinney has been appointed first assistant physician, State Insane Hospital, Middletown, N. Y.

—The lingual tonsil should be examined in hæmoptysis when the state of the respiratory organs gives no clue to it.

—Tattoo marks (*Cin. Lan. & Clin.*) can be removed by electrolysis in the same way as superfluous hairs and destroyed.

—Under the auspices of Mrs. Carroll a very enjoyable water party was given the last of May for the benefit of the Hahnemann Hospital.

—The British Association for Child Study was recently established at a meeting held in Newcastle-on Tyne, under the presidency of Dr. Oliver.

—The Yale medical school has received from the estate of the late George Bliss, of this city, a donation of $50,000; also from Mrs. May C. Hunt $25,000.

—A chart of the death rate in London, from the beginning of the seventeenth century, shows that from 1660 to 1676 the death rate was 80; in 1888 it was only 18.

—Dr. Schweninger, Bismarck's physician, in a recent address, declared that the corset in woman and the silk hat in man were the two great sources of ill health.

—Several cases of cyanosis have recently been reported in infants from the dusting of acetanelid over the umbilicus. When used in these cases it should be diluted.

—May the next jubilee (*Phil. Polyclinic*) witness a united, progressive profession, to whom our highest wisdom shall be as the prattling of babes, or the dreams of children!

—Da Costa says that sulphur and cream of tartar, equal parts, form an excellent laxative for hemorrhoidal conditions during pregnancy, producing soft and semi-liquid stools.

—Dr. Lewis R. Morris has removed to the Blenheim, 60 West Fifth-eight Street, and will be at Glenwood Springs, Col., during the months of July, August and September.

—A case is reported where alcohol counteracted the effects of carbolic acid in an attempted suicide. Alcohol applied locally will counteract the corrosive action of carbolic acid.

—The work inaugurated by Mrs. Howard Carroll, the President of the Ladies' Aid Association, Hahnemann Hospital, for a free bed fund for the National Guard netted over $22 000.

—Dr. Weil states in the *Practitioner* that every form of vomiting during gestation can be relieved by a 20 per cent. solution of menthal in olive oil. Dose, 10 drops on sugar whenever nausea appears.

—Dr. Platt proposes giving a summer course on Orificial surgery at the Summer Sanitarium of the Drs. Muncie, at Marine Island, on the Great South Bay, near Babylon, L. I., during the first week in July.

—The latest treatment of general septicemia is by hypodermic injections of creosote. The creosote is mixed with equal parts of camphorated oil, and 20 minims of the solution are injected three times a day.

—A very beautiful rendering of "Divorçons" was given at the Fifth Avenue Theatre by Mrs. Minnie Maddern Fiske and her company, for the benefit of the free bed fund of the Maternity Hahnemann Hospital.

—A telegraphic dispatch sent to a prominent dermatologist, "How can I abort eczema?" fell into the hands of a police detective who, thinking eczema was a woman's name, caused the arrest of the sender of the dispatch.

—In using carbolic acid in infants always be on guard against poisoning. The first evidence of poisoning is shown by the urine, which leaves a pink stain on the napkins after being exposed to the air for half an hour.

—Dr. I. F. Watt, of Oregon, mentions a case of pregnancy which occurred where the opening through the hymen was so small that it was impossible to pass a probe through it on account of excessive pain and tenderness.

—For preserving anatomical soft tissues, M. N. Malnikoff-Rasvedenkoff recommends treating specimens successively with formaldehyde solution, alcohol 60 to 80 per cent., and a solution of glycerin 20 parts, potassium acetate 15, water 100.

—There is no doubt that physicians charge for their services in accordance with the means of their patients, and none are refused treatment. If physicians would volunteer to treat the poor of their respective circles, there would be no need of dispensaries.

—Ten thousand persons at a time will be able to enjoy good, fresh air in the big free public pavilion to be built by the city at the foot of East Twenty-fourth street, and it is a safe prediction that after it is open in August it will rarely have less than that number of visitors.

—Pills: "Dosem has been expelled from the medical association for advertising contrary to the code." Squills: "How did he advertise?" Pills: "He was called to lead the prayer meeting the other evening, and he walked up to the front and gave out the hymn, 'The Great Physician Now Is Here.'"

—It is a long time since the building of a great library in Bryant Park was first suggested, but now that Gov. Black has signed the bill permitting New York to spend $2,500,000 for that purpose it is to be hoped rapid progress will be made in tearing down the unsightly reservoir in the park and the erection of a library building on the site that will be a credit to the city.

—*Nouveaux Remedes* describes a new ink that will write on glass, and can take the place of paper labels on bottles, etc., as it is indelible. It is made by dissolving 20 grammes of brown lacquer (not heated) in 150 cc. of commercial alcohol, and mixing this, a drop at a time, with a solution of 35 grammes of borax disolved in 250 cc. of distilled water. It can be colored as preferred; 1 gramme of methylen violet, for instance, will produce a handsome ink.

—The posture of bicycle riders, and also the saddles now in general use, were severely criticised by Dr. A. L. Gilman, at a recent meeting of the American Public Health Association. He believed that the cycle of the future would consist of three or four wheels impelled by some easily-managed motor. This would be used for special occasions, while if exercise was necessary for the health, the best of exercises, walking, would again become popular.

—Watu advocates (*Charlotte Med. Jour.*) the treatment of infantile diarrhœa by a régime of boiled water, cooled to a suitable temperature and given in small quantities every hour or half hour, or as thirst demands, to the exclusion of all food, for eight, twelve, or even twenty-four hours. By diluting the irritating secretions, dislodging the débris of decomposed alimentary matter retained in the folds of the mucosa of the canal, increasing the pressure in the blood vessels and dissolving the toxins attached to the formal elements, the ingested water carries away and eliminates the poison from the system, changes the morbid character of the stools and effects a reduction of the temperature and recovery, especially when administered in acute cases at their commencement and in children not very young.

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M.D., LL.D., New York.

PART V.

Identica, Similia, Contraria,
By these signs we will conquer.

A. VEGETABLE CHARCOAL. B. OBJECTIONS TO NATIONAL MEDICAL EDUCATION.

MEDICAL text books seldom note the fact that some charcoals are richer than others in the constituents associated with carbon.

In future years more exact knowledge of the various charcoals will be considered necessary in order to determine their medicinal values.

The salts of potassa, silica, etc., found in the different vegetable charcoals vary in proportions, even when produced from the same kind of trees grown in different soils.

Ebony, rosewood, mahogany, locust, lignum vitæ, arbor-vitæ, cedar, oak, hickory, pine, willow, ailanthus, eucalyptus, upas, Peruvian bark, cork, seaweed and moss, also animal matter resembling vegetable growth, such as the sponge, produce charcoals of very dissimilar therapeutic powers, due to the peculiar proportionate combinations of their salts.

Poisonous plants, vines and trees, when burned, possess properties unlike more inert vegetation.

As a rule it is not intended to devote much time to individual remedies in these papers; but as the charcoals and sulphur will in all probability be more earnestly studied and extensively used than ever before, both as medicines and menstruums, it is thought well to give considerable space to these precious drugs. But a very few of the thousands of symptoms attributed to them will be mentioned here, because the entirely different and more careful manner of proving, which will be instituted by future students who will devote their whole time to the *modus operandi* of drug action, may necessitate many changes in our medical ideas. We may even return to a few peculiarities of ancient medicine.

From the tangles of superstition many valuable truths have been rescued, and when we recollect that some recent wonderful discoveries, now reverently worshipped as emanations of modern wisdom, are but scientific developments of superficial rakings from the ashes of so-called superstitions, why does it not occur to us to still further investigate these supposed superstitions?

During the ages long gone, intensified by the force of his great necessity, intuition and animal instinct come to the aid of man. His ready acceptance and willing use of these inherent powers might be mistaken for superstition, especially when he attributed to some mysterious cause the benefits received.

It may be offensive to the intellectual pride of our materialistic age to admit the possibility of his having had the merciful guidance of inspirations from on high.

The fact cannot be evaded that adamantine truths are being developed from what we have hitherto looked upon as mere dreamy superstitions of benighted minds.

For thousands of years ignorant credulity and even intelligent belief have held in high esteem the ideas of identity and similarity as curative principles, however crude were those ancient applications of these laws to disease. Indeed, as therapeutic means, these laws have been deeply rooted in the convictions of men in several parts of the world, ever since, by Divine command, Moses lifted the brazen serpent before the children of Israel to cure those who had been bitten by venomous snakes.

Many among the intelligent as well as the illiterate, seeing, as it were, "through a glass darkly," have for ages believed that diseases possessed *innate* powers of self-destruction, and that *similar* morbid conditions and poisons neutralized each other.

In groping through ancient writings such passages as the following occasionally appear: "*Sanctis non jam contraria contrariis, ut mortales medica solent, sed similia similium usu curantibus.*" —Acta Sanct., January 31st, Tome III., p. 707. These old volumes contain records of very ancient thoughts and acts of the early Christians. The words quoted were at the conclusion of an account of a person who had been dangerously poisoned by some venomous reptile or insect. No relief was found until the person had swallowed a similar poison from a different reptile, a poisonous lizard, when rapid recovery followed. Many such peculiar cases may be found recorded in ancient literature, proving a belief, however clumsy aud unscientific, in the laws of identity and similarity. The use and value of diphtheritic anti-toxin would not have been as great a surprise to the ancients as it has been to medical men of our own day.

Some also clung to a belief that the various human organs had decided curative value in deficiences and maladies of the self same organs.

Then, still obscurely groping through the darkness, they eagerly sought similitudes in flowers, fruits, plants and trees.

Knowing little or nothing of the functions of internal organs, they were satisfied with imaginary resemblances to the external.

Their grotesque ideas built crude forms of diseases; of these and of their external manifestations, such as eruptions, excrescences, colors and temperatures, they industriously sought reflections in nature.

Had medicine not been too much like those of vulgar mind who in the hour of prosperity are ashamed of the loving although uncouth mothers who gave them birth, she might have learned much from her superstitious old parent, who amid her stupidity and ignorance still retains a wealth of useful truths.

This identical superstition, intuition, instinct, or whatever else we choose to name it, held that by fire or long decay the virulence of certain vegetable or animal poisons might be extinguished

and yet leave behind some subtle self-antidoing principle. For instance, persons who are sensitive to rhus toxicodendron or poisonous insects, might be relieved of their immediate effects, and perhaps rendered immune, by using the coal or ash of the identical vegetable or animal matter. The same principle to be applied to persons easily poisoned by fruit or fish which are usually wholesome to the generality of individuals, such as strawberries and shell-fish. Of course, the possibility of these cures being effected by suggestion seriously interferes with correct judgment in therapeutic researches.

Many of these ideas, supposed to have been conceived by credulous ignorance, will be attentively considered by future physicians, and surprising benefits may follow. At any rate, a conscientious separation of the good from the bad will be attempted by men who will have learned how to break from the shackles of what is worse than superstition, that insufferably narrow prejudice which so often deforms and belittles learned men.

In the previous paper, when speaking of pulverized charcoal as presenting a much larger absorbing surface than when unbroken, mention was not made that absorption of gases might be retarded, or even prevented, when such powdered charcoals or other carbons are packed firmly together. Under such conditions superficial action only could take place. Lampblack, as usually made, is not pure carbon. To obtain pure carbon, vegetable charcoal may be cut into thin sections or broken to small particles and then boiled, first in hydro-chloric acid, followed by pure water to dissolve and wash out potassa and other salts; then it should be soaked in hydro-fluoric acid to dissolve the silica, and again boiled in pure water; afterward dried and brought to a red heat and excluded from the air in close vessels, wherein it may be saturated with any gas or combination gases desired.

Thus carefully prepared, we have a most valuable absorbent freed from constituents which may in themselves interfere with delicate drug action, more particularly when charcoal is used for triturating other remedies.

The absorbing power of this prepared coal may be greatly enhanced by plating its particles with platina, as described in the previous paper.

This may seem to be taking a great deal of trouble for a very ordinary affair, but infinitely more care will be exercised in preparing the simplest medicines in future years.

It has already been stated that *deoxodized* charcoal hastens decay, while that containing, as it usually does, active oxygen, prevents decomposition.

Deoxidized charcoal thus affects dead or dying tissue only, it having no harmful effect on the living tissues.

A consideration of animal charcoal and sulphur is necessarily deferred to the next paper.

NATIONAL EDUCATION.

Events have come to knowledge since the previous paper was written which compel a reversal of several opinions therein earnestly expressed. The intention was good, but judgment failed through forgetting that selfishness will ever remain a very human trait.

In speaking of a college of the future, suggestion was made that under the fostering care of the central Government the grandest of medical universities could be planted and nourished; and that by its broad and just management, narrow prejudice, incapacity, nepotism and general favoritism might be banished, and then really worthy young men, without influence, could after a perfect preparation fill professorships in the various medical colleges.

The intention was good but, in the light of recent events, the judgment was absolutely bad.

It has become only too evident that any university of learning under Governmental direction would be worse than a farce, for it would surely develop into a most dangerous instrument of tyranny. To illustrate: We have at Washington one of the splendid libraries of the world, one that requires the highest order of special ability to sustain its great character. A gentleman who has long honored his position by bringing eminent qualifications to this difficult and important work, its former chief librarian, is now relegated to an inferior position, while a politician is given supreme control. Henceforth that noble library may become another political nest egg.

Alas! true statesmanship was hopelessly wrecked when in the eyes of descendants of sterling old patriots of 76 it ceased to seem a hideous crime to bargain for an American citizen's birthright.

God forbid the possibility of national control of education if such influences are to direct instruction. National universities have exercised dangerous power in other countries; their guiding principle too often being an accumulation of mere material knowledge with hardly any higher end in view than profitable ventures and consuming ambition. With the danger of such possibilities before us we have more reason to dread a national college of medicine than to hope for it, lest it, too, might become a national disaster. Therefore the task of forming a great central college of medical professors, where the best possible medical education could be had by naturally gifted young men, even without influence, who possess very great talent for research or unusual power of imparting knowledge, is safer in the hands of county, State and national medical associations, assisted by generous patrons.

The abilities of graduates of such an institution might become of so high a character that colleges would be eager to offer them appointments to their chairs.

Up to the reign of the Empress Josephine, wife of Napoleon the First, the pocket-handkerchief was considered such an indecent article that nobody dared to make use of it in the presence of others. Even the word handkerchief was carefully avoided in refined conversation. An actor attempting to use a handkerchief, even at the most tearful theatrical moments, would have been hissed and hooted from the stage without compassion or compunction.

THE INFLUENCE OF DRUG IMPRESSIONS: A STUDY IN MEDICAL EMPIRICISM.*

By Elmer Lee, A.M., M.D., New York.,

Vice-President American Academy of Medicine; Chairman of Section on State Medicine. American Medical Association; Member of the Committee on Revision of the U. S. Pharmacopœia, 1890

THE symptoms of diseases and their treatment have been narrated a vast number or times, perhaps too many. At the recent meeting of the American Medical Association there were more than 600 papers on the programme, representing the most positive proof of the empiricism of medicine. The mere presentation of such a list of essays at an annual meeting of one medical association means, if it means anything, that medicine is as far from a science to-day as it ever has been in its modern history. Now that the papers of that meeting appear from week to week in print, the search for something definite that will augment the cure of sickness is certain to provide readers, but is an application of what is read likely to benefit the sick beyond the helps employed last year or the year before?

Read them and decide for yourself if your experience in practical therapeutics needs any reminders of the hopeless confusion that reigns since the advent of excessive commercialism in pharmacy and the birth of a new coal tar derivative or serum cure for each new day of the year. The profession is kept in a ferment of experimentation at the instance of the industrious chemist and layman. The commendations of worthless drugs are planned and worded with all the conceivable art with which language abounds—practically the same art that is used to enhance the claims of such remedies as are advertised to the public through the secular press. And lately the proprietors have adopted a policy of working their wares at first upon the profession through the medical journals and then later upon the people through the religious and secular papers. The demand for advertising has become so important as a factor of journalism that quack nostrums are now admitted to the advertising pages of the medical journals.

It would seem but natural that ere long, through concerted action by an army of trained physicians, such perfection in the treatment of the sick could be obtained which would satisfy the public as well as justify the profession in their claim to the title of physician. The laity has looked and waited while the experiments have been taking place, covering hundreds of years and directed by innumerable clinicians, ever hoping to secure perfection in therapeutic methods. The premature taking off of the patients illustrates too frequently how vain the search for success has been, either by the inaptitude of the average physician to comprehend natural method in treatment or by the blinded adherence to chemicals which are so generously recommended in the spurious literature of the advertiser.

* Written especially for the New York Medical Times.

The reforms in treatment, so long as dependence is placed upon a belief in drugs to arrest and change pathologic conditions into normal health, will be slow, insecure and disappointing. The trial of drug remedies has included millions of instances and the time of the entire history of civilization. The failures to cure are strangely ascribed to the selection of the wrong drug or the improper dose, or some other incidental matter pertaining thereto which serves to defeat our expectations. Already the number of preparations devised by the chemist for the drug treament of disease, according to good authority, exceeds more 25,000 different remedies. The array of material from which to select is so great as to constitute a perpetual riddle in medicine. Individual judgment as to what remedy and in what dose will ever prevent, judging by analogy from the experience of the past, that simplification and approach to perfection of therapeutic method which is the desire of the age in which we live and the high need of the hour.

Were it possible for the profession to determine to its satisfaction the treatment of a disease so that it could be considered as settled, it could then turn its attention to some other medical problem, and, after its mastery, take up still others, and so on, until the entire list would be completed. A great many years in the professional life are wasted in efforts to master what are, after all, only the non-essentials.

Then, again, the influence of drug impressions upon the mind, from childhood to old age, interferes with fearless and original investigations in other directions of treatment, more simple and truer to nature. It seems to be as difficult to free the mind from the ancient, mediæval and modern beliefs, relative to the popular custom of trying to cure disease by the administration of drug substances, as it is to escape the doctrines of theology.

Dr. Wendell Holmes, in an address before the class of 1861, at Harvard Medical School, spoke the truth in his emphatic and epigrammatic manner as follows: "The disgrace of medicine has been that colossal system of self-deception, in obedience to which mines have been emptied of their cankering minerals, the vegetable kingdom robbed of all its growth, the entrails of animals taxed for their impurities, the poison-bags of reptiles drained of their venom, and all the conceivable abominations thus obtained thrust down the throats of human beings suffering for some fault of organization, nourishment or vital stimulation," for which remarks he came near to excommunication from the orthodox profession.

Confusion arises frequently when an attempt is made to discover the relations between cause and effect, so that it is never certain in the minds of those practitioners who depend upon chemicals for the cure of the patient, which is the symptom of disease and which that of the drug. Besides, the attempt to treat symptoms instead of conditions means much trouble for the physician and generally disaster for the patient.

There is widespread belief that it is necessary to change the aspect of symptoms of disease by

substituting a drug symptom, regardless of the vitality or the general effect upon the patient. For this purpose, a great variety of chemic depressants, excitants, irritants and obstructions are introduced into the human system, thinking that in some way, not very well understood, that they contribute advantageously to the natural processes in their efforts to eliminate the cause of the disease.

Dr. Charles E. Page, a Boston physician, who is as much a master of practical therapeutics in the treatment of disease as was Dr. Holmes a natural autocrat in the philosophy of medicine, says in a recent communication that "Col. Ingersoll seems to stand precisely where we do as to orthodoxy, and his criticisms of theology and the supernatural would apply equally well to the popular theories of medicine. The literature on the value of water treatment, pure and simple, inside and out, and statistics of comparative death rate, and so forth, are ample and at hand for any inquirers, but the profession prefers to stick to the popular plan of treatment, while aware, as we are, that drug poisoning interrupts and protracts the recovery of the patient. But they are orthodox, misled every way, and the knowledge of natural method does not penetrate the bomb-proof shell cast about them by the teaching of the medical schools."

In a recent letter from another discerning and successful practitioner he writes as follows: All the ills to which the flesh is heir can (if curable) be treated successfully by hygienic methods. When health is lost it is folly to complicate the case or render it hopeless by taking drug substances. It is worse than folly to surgically mutilate the body when there is not the slightest need. The life-giving agents which nature provides are intended for our use, in sickness as well as in health. They confer a twofold blessing; they keep us well so long as we use them properly; they also restore health when it is impaired. They do this without wasting the vital force and without injuring or destroying the constitution.

Why should the patient swallow a poison because he is ill, or take that which would make a well man sick? Such practice has neither philosophy or common sense to recommend it. In sickness the body is already loaded with impurity; that is why it is ill. By taking drug medicines more impurity is added thereby, and the case is further embarrassed and harder to cure.

Furthermore, he states: The judicious use of hygienic agents not only does away with drugging, but with the greater part of surgery. Were the practice of hygiene universal, health would be the rule and sickness the exception. Drugs as curative agents would scarcely be heard of; their uses would be in chemistry and the arts, where they properly belong.

The Hoosier farmer tells of the death of his wife; it is tender and pathetic and contains a moral beneath the homely phrases:

> "Lived together forty year, sir,
> Her an' me, come next December!
> Never hed no trouble, neither,
> Died, two year ago in August,
> Hed the gripp, or somethin' like it.
> Tuck a powerful sight of quine-ine,
> And a heap of draps and powders,
> And right-smart of other truck, too.
> Nothin' seemed to do no good, tho'." *

It would be but a brief day, if only natural agencies were employed in the cure of the sick, until the treatment of acute diseases would be established upon a plane of perfection equal to that of mathematics, to the dismay and dispersion of empiricism. It is my experience that, in order to comply with the preconceived opinions of the sick and their friends, drugs in some form are required, not that they exert a curative influence from a pathologic standpoint, but that they appease the patient and satisfy the expectations of the friends. It is nearly or quite as important to satisfy the friends as it is to treat the patient.

For the purpose of complying with the inexorable demand by the patient for medicine, be he "wit," "sage," or "imbecile," use is made of some favorite placebo. The beneficial effect of the placebo is enchanced by a "wise look" and explicit directions, as well as by a judicious make-believe medicine that has a proper tint of red, green or yellow.

In a case of stomach derangement of recent date, a lady patient returned to me unexpectedly to say that by mistake she had taken an overdose of medicine, which had greatly alarmed her, and had produced, she said, a similar effect to that of too much morphine. She had been instructed to take one tablet at each dose, which contained nothing but one grain of sugar of milk, whereas the overdose, which had so alarmed her, consisted of two of these sugar of milk tablets. It was hard to keep my equanimity under this amusing circumstance, but the patient was sent away with the remark that she must be more careful in the future not to mistake or exceed the directions.

In another case a mother, whose child was under treatment, complained that the last medicine given her for her use was not entirely satisfactory. Her observations as to the effect of the objectionable remedy was thoughtfully received, and tablets of sugar of milk, but of a different color, were substituted for those which had been unsatisfactory. The mother at the time of her next visit to me spoke in the highest praise of my skill in meeting the requirements of her daughter's case which had "baffled the efforts of the professors at the college."

The day is far away when the profession will be able to drop the mystic influences of potions and powders, draughts and placebos in general or special practice. Nevertheless the experience gained in the active work of the profession for many years has taught the valuable lesson of non-reliance upon drug therapeutics for the cure of the sick, much to my own satisfaction and to the rapid recovery of the patients. A few chemicals have a proper place in the exigencies of the moment, for purely temporary use, but beyond this limited employment there is no physiologic

* "Facts and Fancies," O. Evarts.

justification for the introduction of drugs or serums into the human organism.

When the departure from the habit of prescribing medicines in the usual form and according to the prevailing popular notions of their utility was first made, it was with acknowledged fear and caution, because the milestones at that time were few and far between on this highway of treatment. The journey along the way since then has been made safe and agreeable by reason of the association with many wise and friendly masters of medicine whom it has been my pleasant experience to meet, and from whom both counsel and encouragement have been received.

THE OPERATIVE TREATMENT OF CANCER OF THE UTERUS.

By Homer I. Ostrom, M. D., New York.

WITH a restriction of the importance of inheritance in the transmission of disease, and a change in the theory of the primarily constitutional origin of cancer, the principles upon which the treatment of cancer are based have also changed, and it is now no longer a question of operation, but rather of when shall the operation be done. We will therefore not discuss the advisability of operating for the removal of cancer of the uterus—this has already been decided to be a perfectly justifiable procedure, and a legitimate method of treatment—but we will confine our remarks to the indications for the operation, and the time for operating.

In the present inquiry there is no attempt to treat the subject upon a pathological basis; the conclusions drawn are from a surgical standpoint only. Therefore the word cancer is made to cover any malignant growth of the uterus that tends to invade the surrounding tissues and ultimately to destroy life by interfering with the proper ratio between waste and repair. The definition is a wide one, and includes sarcoma as well as carcinoma, but from a surgical view it is exact enough.

At the outset I will make the broad statement that the only treatment for cancer of the uterus is operative, and that when we cannot operate we can do nothing but palliate. By this I mean that neither internal medicine nor local medication can be of service in these cases, and that if in our judgment the disease cannot be removed by operation it has already gone too far to be removed by any other means, and our position becomes one of prescribing progressively increasing palliatives.

We therefore come to the question, What are the conditions that will determine for or against the operation, and when shall we operate?

I consider any case of cancer of the uterus an operable one if the disease has not invaded perituterine tissue, and if the pelvic glands are not involved, for there is little doubt that cancer of the uterus is at first a local disease, having its origin in the vast majority of cases in some abnormal condition of the cervix. There is also little doubt that heredity may play a certain part in the development of the disease. A small part, it is true, but nevertheless a part, and one that we must regard in making our picture of the disease. Let it be emphasized that heredity does not mean a constitutional state; the inheritance may be a purely local error in cell development, or rather a tendency to erratic cell nutrition. Therefore in no sense can the disease be said to be constitutional at first; in no sense are we to look upon the local disease as an expression of a pathological force within the system. Given the local error in cell appropriation of food, and any condition that lowers the nutrition of the same cells, as trauma, and the forces are at work that result in the development of uterine cancer. But that cancer of the uterus may develop independently of inheritance there is every reason to believe. If we regard neoplasms as an insane cell development, or look upon them as individual and independent organs, connected with the system only by means of the channels through which they derive their nourishment; and if we regard cells as possessed of an individuality by means of which they discriminate, so far as their nourishment is concerned, we certainly have reason to believe that neoplasms can arise locally, and without the cooperation of the general system. This opinion is supported by clinical evidence, for we are constantly meeting with cases of cancer in which there is not the slightest evidence of any inheritance; cases that can be traced from their very incipiency. The justification for the operative treatment of cancer of the uterus rests wholly upon this belief in the local origin of the disease, for if it is not local no operation is at any time justifiable; for no operation will eradicate the disease.

But, as we said in the beginning of this paper, it is not intended to discuss the propriety of the operation, or to advance arguments in its support; the question is when and how to operate.

From a vast number of cases of cancer of the uterus that have come under my observation I am lead to believe, somewhat in opposition to the general opinion of surgeons, that the initial stages of the disease are always well defined and easily recognized; that the disease does not at first advance very rapidly, and that if we would heed the early symptoms of the changes going on in the uterus, we would be able to cope more successfully with this dread disorder. It is more just to our profession to say, if we were *allowed* to recognize the early symptoms of the disease, for the patient is frequently to blame in not seeking early advice. This may arise from ignorance, or from the peculiar mental unwillingness on the part of the subject of cancer to acknowledge even to herself the existence of the malady. In this way cancer becomes well developed before the surgeon is called, and the favorable time for operating is lost before the diagnosis is made.

But to return to the early symptoms that should lead to diagnosis of cancer of the uterus. In the first place there is the well-known pathological fact that cancer is a disease of adult life. We therefore find it more frequently developed near the change of life than earlier.

We also know that cancer frequently develops from an injury, or at least it in many cases seems

to follow an injury; the exact relation of cause and effect we cannot yet say. As a matter of fact, however, we find cancer of the uterus more frequently in married women who are near or who have passed the climacteric, and who have borne children.

All neoplasms may be regarded as increased cell activity. When, therefore, an organ, as the uterus, that at a certain period of life ceases to act, in other words, folds up its function, either continues its imperfect action beyond that time, or ceases, and begins again, we are justified in concluding that some abnormal cell activity exists. In other words, when a married woman who has borne children, ceases to menstruate, and within a variable length of time notices a bloody discharge from the vagina, which may or may not be offensive in the beginning, our suspicions should be aroused and an examination should be insisted upon. This is the first symptom that indicates that a pathological process is going on in the uterus, and should never be neglected. Unfortunately, when it appears the process has already begun; but it is in its early stages and has probably not yet gone beyond the initial point. I do not wish to be understood to say that every case of bloody discharge from the uterus, occurring under the conditions I have named, is an indication of the presence of cancer, but so frequently is this the case, and so unfailing are the results of the fully developed disease, that we are justified in assuming its presence until we prove that it does not exist.

And now the question of proof, which is not so easy, if we depend too much upon the microscope. As a routine practice I always have the scrapings of a bleeding uterus examined microscopically, but I do not depend upon the result of that examination for my diagnosis, nor do I plan my treatment upon it. I have seen so many cases diagnosed by the microscope as simple endometritis that resulted fatally; and on the other hand I have seen cases diagnosed by the same means as cancer of undoubted development get well without an operation, or any treatment, that I am skeptical as to the reliability of the microscope as a positive means of diagnosis. It is of the utmost value, but it forms only one of the means at our command.

My position is possibly a very radical one, but it has been reached by my experience, and while it may err on the side of too early and frequent operations and interference, I am certain that, with our present knowledge of cancer and its treatment, we cannot be too radical in the methods we adopt in dealing with the disease. If, therefore, a case presents itself with the history that I have outlined, and the microscope shows an undue activity of the lining of the uterus, I do not consider it necessary to show positive cell degeneration; I believe it is better to remove the entire organ in which the abnormal process is going on. Especially do I consider this course wise if the woman has passed the child-bearing period. Then there is no hope but that the uterus will, having once begun to degenerate, continue its downward course, for the organ at that period becomes an effete organ, and is in the line of degeneration. The uterus has lost its power to build up tissue, its power to reconstruct, and any process that it undertakes will of necessity fail to reach the higher forms of cell structure or cell arrangement.

I therefore consider the age, social state, presence of bloody discharge from the uterus, and the evidences of the microscope as sufficient reasons for removing the uterus. If to these are added the indurated os, and the peculiar feel of the cervix, not merely induration, but the sensation communicated to the finger that something existed within the covering of the uterus, that we recognize as different from the uterus, though a part of it, I do not hesitate from the subjective symptoms to advise hysterectomy.

It is not necessary, nor is it wise to wait for the symptoms that mark the more fully developed disease; if we do this we have waited too long. My experience is that when the pelvic pains begin, when the sciatic and anterior crural nerves are affected, the disease has involved more than the uterus, and has reached the stage when the question of operation or not operation, calls for consideration.

It is rather remarkable that the local pathology does not apparently correspond to the advent of these neuralgic pains, but they always indicate to me, as I have said, a more grave condition of the malady; for I have invariably found that the cases operated upon where these symptoms existed showed a wider extension than there was reason to suspect before the operation. The presence of these pains, therefore, are a counter indication of the operation, and must be given due weight in determining the course of treatment.

As we follow the development of cancer of the uterus, we reach the limit of time when any operation for its removal is justifiable. For when the disease has gone beyond the organ primarily invaded, when the peri-uterin tissue shows evidences of infiltration and the pelvic glands become involved, it is very questionable whether with the most extensive operation the whole of the disease can be removed, and I maintain that if we cannot feel a reasonable certainty of making a thorough removal, we should not attempt the operation. The mutilation which forms a necessary part of the operation in many cases I have thought served to stimulate the eratic cell development to increased activity, and therefore my practice in cancer of the uterus rests upon the belief that if I cannot remove the entire cell centers, I actually prolong life by withholding my hand, and by simply adopting such means as will relieve the patient's suffering and render the certain end as comfortable as possible.

One other condition which I have learned to regard as of the first importance in determining whether or not the case is one for operation, is the condition of the utero-sacral ligaments and the state of the lower border of the broad ligaments. The former structures have not received the attention from gynæcologists that their importance in the anatomy and pathology of the pelvis deserves. As I have on former occasions pointed

out, pelvic inflammation more frequently attacks the utero-sacral ligaments and their peritoneal covering than any other structures connected with the uterus, and it is here that the evidences of pelvic inflammation and exudation show themselves earlier than in other situations.

The same is true of malignant diseases of the uterus when the stage of local development is passed. Even before actual absorption has taken place, the utero-sacral ligaments become tense and thickened, and seem to spread out laterally from the uterus toward the pelvic walls, frequently filling the posterior uterine space.

The broad ligaments bear the same relation to uterine neoplasms that has been observed of the utero-sacral ligaments. They become tense, infiltrated, and bind the uterus to one or the other side, according as it is the most affected. But I have observed this condition earlier in the utero-sacral ligaments than I have in the broad ligaments, and it has therefore served to indicate to me a beginning constitutional invasion, which argues against operative interference.

From this it will be seen that I favor operation for cancer of the uterus in the early stages of the disease only, and that I am opposed to the operation as worse than useless if there are symptoms of constitutional invasion, or of the morbid process having spread beyond the uterus itself.

It will further appear that I favor removal of the uterus before we can say with certainty that the condition is cancer, if there appear the symptoms that are known to *precede the development* of that pathological state; my reason for this being that we cannot tell just where the innocent cell changes stop and the malignant ones begin. Nor can we say how long a simple error in cell formation and growth will remain so.

It having been decided to remove the uterus, either for cancer or suspected cancer, the question presents itself, Shall the ovaries and tubes be included in the amputation, or shall we rest satisfied with getting rid of the uterus only? It seems to me there can be but one answer to this question if we follow consistently the course of treatment that prompted the operation. The object being to remove all diseased tissue and any tissue that stands in the line of infection, it seems to me that we should not hesitate to include the appendages with the uterus, especially if the case is one passed middle life. The age, however, must not weigh too much against the possibility of a cure; nor should we give too much heed to the war cry of the opponents of surgery, that we unsex the woman if we remove her ovaries. Such criticism occupies no place in the scientific discussion of the disease, and will not influence the surgeon in his treatment. The woman is already "unsexed," and even were she not, should this result of the operation weigh against the possibility of curing her of her fatal malady?

The only question of sufficient importance for us to consider in this connection is the additional risk that we subject the patient to, when we remove the ovaries with the uterus. As a matter of fact, I do not regard a hystero-oöphorectomy as more dangerous than the removal of the uterus alone. And in some cases the operation is not attended with as much danger or difficulty as when the uterus is removed and the ovaries left in place. However, the one and sole question for us to decide is the most certain means of curing our patient, and of completely eradicating the pathological cell development. I am therefore in favor of always including the ovaries in the amputation of the uterus. If the operation is done at all it should be done thoroughly.

We now come to the consideration of the best method of operating for the removal of a cancerous uterus. Each surgeon has his own method, which may not possess, save in his eyes, any advantages over the many other methods that have been proposed. But it is a fact that we must not lose sight of, that to him it is the best method, for, after all, surgery is largely an individual matter, and dependent in great measure upon the experience and individual manipulative skill of the operator.

We have first to decide whether we will operate through the abdomen or through the vagina, or combine the two operations. Other things being equal, I prefer the vaginal route, for the reason that it does not involve as much risk as the abdominal opening, and the recoveries are attended with less severe symptoms, and also the evidences of the operation are not as well marked, a point that should be considered, if by so doing nothing essential to the success of the operation is sacrificed. Then, again, the risk of hernia is less in the vaginal operation than in the abdominal opening, though I have no record of rupture following a vaginal hysterectomy in my own practice. On the other hand, if the tumor is large, and there is reason to think the ovaries are involved, it is better to open the abdomen and continue as a combined operation. This affords a better opportunity to examine the pelvis, and to remove the entire disease. With the patient in the Trendelenburgh position, the pelvis is exposed to the operator; and with the vagina opened, the possibilities of a radical amputation are greatly increased, and at the same time the opportunity of establishing thorough drainage, a step which I consider essential in some cases, is presented.

Without the vaginal opening a small uterus is very difficult of removal through the abdomen, for the intestines have not become displaced by a tumor, and the vascular connections are so deep in the pelvis that even with a patient in the Trendelenburgh position, it is sometimes almost impossible to secure the vessels. But with the vagina open the operation is performed with ease and rapidity. The abdominal route alone I do not consider as ever called for in cancer of the uterus. The vagina must always be open, and it is better to begin the operation as a combined one; that is, open the vagina first, and as a primary step, than to begin the operation from above.

I, however, rarely find it necessary to operate by the combined method, for, as I trust I have made clear, if the case is one that I consider suitable for operation, the manipulation necessary can be carried on through the vagina. If the disease is so extensive that it cannot be removed by this route it is not generally, according to my

opinion, one for operation, and should be relegated to palliative treatment.

I do not know that the steps of the operation I perform for the removal of cancer of the uterus are essentially different from those which other surgeons follow. The fallacy of what has been called the "bloodless operation and the process of enucleation of the uterus" I set my face against, as I think any scientific surgeon must do, and also the use of the clamps to permanently secure the uterine and vaginal arteries. The former has no place in the operation for cancer of the uterus, and the latter belongs to the surgery of the past. Occasionally it may be necessary to leave clamps on the arteries, but this must be exceptional, and when required should be looked upon as a misfortune. As an argument in favor of the use of the clamps it is said the operation is thus performed more rapidly and with less danger of hemorrhage. Even were this true the objections are so many and so valid against the clamps that I think their use should be discarded. But in my experiences the operation can be performed as rapidly with ligatures, and more safely, than with clamps, and any one who has seen a convalescence following these two methods of operating cannot for one moment doubt which is the true surgical procedure. The pain and discomfort of one, the ease and uneventful recovery of the other; the necessary suppuration of one, and the healing almost by first intention of the other, can point in only one direction. Clean surgery, which is the surgery of to-day, cannot admit the clamps as permanent means to secure arteries, unless other means have failed, and therefore they should not be used in vaginal hysterectomy.

I formerly used silk to secure the uterine and the ovarian arteries, but it was not satisfactory for the reason that it caused too long constriction of tissues, which must contain more or less nerve filaments; thus many cases continued to suffer pain and made slow recoveries.

I now have prepared in my Private Hospital, under my own direction, a chromacized catgut which I find as nearly perfect as anything I have used. It is absolutely aseptic and will last four and five weeks. The catgut so prepared has made it possible to use a much finer thread than I was formerly willing to trust to secure the arteries in this operation. This in itself is a great advantage, for after a ligature has done its work it should be quickly absorbed. Silk remains for months and sometimes years, but the catgut absorbs and thus early removes constriction from tissues.

When the operation is done entirely through the vagina, I first open the posterior or anterior cul-de-sac—the choice will be determined at the time of the operation—and then, by placing the index finger of the left hand behind the broad ligament of the left side, the uterine artery can be felt, and ligated by means of my large curved Hagerdown needle, with the eye in the point, armed with a rather fine catgut. The same is done on the right side, and then the uterus is cut out of the broad ligaments, up to the ovarian artery. This may either be treated as the uterine branch was, or the ovary and tube drawn down, and the pedicle thus made ligated by transfixion. The blood supply being thus controlled, the uterus is cut out. If the ligatures have been properly placed, there should be no hemorrhage, either during the operation or after it, and the whole manipulation should not consume more than fifteen or twenty minutes.

The ligatures being left long, are used to draw down the pedicles, to make certain that there is no hemorrhage, and also to assist in placing the gauze packing. I do not sew the peritoneum, but pack the iodoform gauze against the broad ligaments in such a manner as to insure drainage and the protection of raw surfaces, thus avoiding the formation of adhesions with the pelvic viscera.

I do not think it advisable to pack the vagina very tightly, unless there is danger of hemorrhage, for we wish to favor contraction of the opening made by the operation, and therefore we need gauze only to permit the oozing of serum free passage. Cutting of the ligatures completes the operation. The gauze is not removed for five or six days, after which the dressing is done every other day, for the vagina having been once opened, though all dressings are made under aseptic precautions, the conditions that obtained at the time of the operation are changed, requiring after that more frequent dressings.

When, for the reasons that I have mentioned, I consider it best to open the abdomen as well as the vagina, making it a combined operation, I first separate the uterus from the rectum and the bladder, through the vagina, and tie the uterine arteries in the manner that I have described. The patient is then drawn up on the table and the abdomen opened. Usually she is at once placed in the Trendelenburgh position. There remains only the ovarian arteries to secure, and this is done with ease, when the intestines are thrown up against the diaphragm, and thus taken out of the pelvis.

I say only the ovarian arteries remain to ligate, but neglect to place a ligature about the round ligaments will often lead to troublesome bleeding, the source of which cannot be seen, and because of the contraction of the ligaments, may be difficult to secure. Sometimes these ligaments can be included in the ligature that secures the ovarian artery, but more frequently a separate ligature is required.

Undoubtedly the superior opening offers a better opportunity for examining the pelvis and for removing cancer of the uterus than the inferior opening can do, and I am quite prepared to believe that the future operation of election for this dire disease will be the combined operation, though, as I have said, I only occasionally have found it necessary to resort to this method of operating.

I have offered as a reason for the combined operation the advantages it affords for drainage, which I consider necessary in some cases. But not every case requires drainage and those that do not may be looked upon as the most favorable and

will generally pass through the most rapid convalescence. My principal reason for making draining is to guard against hemorrhage and where there has been general oozing from adhesions which cannot be controlled. Then the vagina is the natural channel for draining the pelvis, and if it has been opened in the course of the operation the conditions are ready for introducing the gauze for that purpose. But if there have been few adhesions and it has been possible to sew the peritoneal layers together both the abdomen and the vagina may be closed without hesitation. This is the ideal operation and when practical should always be done, for thus the peritoneum is left intact and the danger of absorption into the cellular tissue of the pelvis is reduced to a minimum.

To bring the peritoneum together I use an interrupted catgut suture, applying, as nearly as possible, the Lembert suture, at the same time throwing the pedicles down into the vagina, and closing the abdominal cavity. The vagina is then packed with 5 per cent. iodoform gauze (I find 10 per cent. too strong for the purpose) and the abdominal wound closed.

My method of performing this step of the operation is simple and gives good results, so far as healing is concerned, and the occurrence of hernia. First the peritoneum is brought together with fine catgut, and then the muscular walls are secured together with silkworm-gut, care being taken to bring like tissues in contact. A fine running catgut suture is then applied to the superficial structures, and the wound dressed with the same iodoform gauze that is used for packing the vagina.

It is a subject for remark the slight reaction that follows this operation. Frequently there is no rise of temperature, and the pulse usually remains undisturbed. With the careful system of dieting that I always observe before any operation there is little gastric irritation, and the kidneys early resume their normal function.

The dressing is not removed until the seventh day, when the abdominal wound is found to be healed (though I do not remove the silkworm-gut sutures until the tenth or twelfth day), and the vaginal vault is so far contracted that only a very small piece of gauze is required at each subsequent dressing.

Even though the case progresses most favorably, I keep my patients in bed for three weeks, and then allow them to sit up, and in a few days stand and begin to walk. I am convinced that by this extra caution as to the getting up I avoid after complications, and though the cure may seem slower than is expected, the results will amply justify the delay.

It is reported that at the town of Eden, a place in Australia which stands on the shores of Twofold Bay, there is a hotel where rheumatic patients congregate. Whenever a whale has been taken the patients are rowed over to the works in which the animal is cut up, the whalers dig a narrow grave in the body, and in this the patient lies for two hours as in a Turkish bath, the decomposing blubber of the whale closing around his body and acting as a huge poultice. This is known as the "whale cure for rheumatism."—*Dublin Journal of Medicine.*

CHLOROFORM NARCOSIS.

By J. Hubley Schall, M.D., New York,

Late House Surgeon of the Emergency Hospital; Late House Surgeon of the Cumberland Street Hospital; Present House Surgeon of the Hahnemann Hospital.

THERE are many conditions in which chloroform is the preferable anæsthetic, such as in inflammatory affections of the respiratory tract, advanced pulmonary disease, renal disease, cerebral diseases, and where operations are to be performed upon the rectum.

For years the medical literature of this country and Europe has given us frequent reports of deaths from chloroform. If we trace the history as to the causation of these deaths we will very often find that the patient was either suffering from a serious heart lesion, shock, or was in the half recumbent position during the administration of chloroform.

If certain precautions are taken the dangers in connection with the inhalation of chloroform can be reduced to a minimum.

I would venture to say that many fatal cases of chloroform narcosis can be attributed to carelessness.

The heart should be conscientiously examined and the condition carefully recorded.

When practical, we should have the patient's alimentary canal thoroughly cleansed the day before the operation. Both a cathartic and a high enema should be given. No breakfast should be allowed on the day of operation. If the patient is much debilitated a glass of strained chicken soup, beef tea or wine is all that should be given. Above all things the patient's confidence should be obtained, as fear acts as a decided cardiac depressant and chloroform would increase it.

A hurry and bustle of nurses about a patient is dangerous, in that the patient becomes frightened. It is unwise for doctors and nurses to appear before the patient in their shirt sleeves just as the anæsthetic is to be administered. The patient should not hear the rattling of instruments; all noises tend to start up a nervous condition.

A patient should not be anæsthetized with a pillow under his head. The head should never be higher than the shoulders.

We should never forget that chloroform depresses the blood pressure primarily by its vaso-motor effect, and secondarily by its cardiac effect, and therefore when administering chloroform we should always keep the patient's head low.

Chloroform above all anæsthetics should be given by the "drop by drop" method until the respiratory apparatus becomes insensitive.

In cases where I have used the Mercks redistilled chloroform it is exceedingly rare for a patient to struggle if the anæsthetic is given carefully and sufficient air is permitted to be inhaled with it.

My choice of inhalers is the "Esmarch." The patient can get all the necessary air through it.

A number of cases I have anæsthetized with re-

distilled chloroform passed into the state of complete narcosis with little or no excitement or muscular disturbance. I have noticed that this agreeable course occurred mainly among young people.

The appearance of the patient is not one of extreme pallor. The respirations are tranquil. The pulse is slow and varies very little during complete anæsthesia.

When the narcosis is complete the chloroform should be administered cautiously, continually and in small quantities.

The greatest danger signal in chloroform narcosis is in the sudden diminution in volume of the pulse. The pulse must be watched more closely than the respiration, because it may stop without any warning.

Partial anæsthesia is dangerous, especially where the patient has not been properly prepared, as vomiting is sure to add to the cardiac depression, and thereby cause collapse.

The opinion prevails more or less generally that narcosis is complete when the conjunctiva becomes insensible; this is an error. If the anterior surface of the trunk is insensible to touch then anæsthesia is complete, as insensibility persists longer in this neighborhood.

According to the teachings of Dr. Hills, of London, there are two forms of chloroform syncope:

(1) During the primary stages of anæsthetization.

(2) During the third stage.

In the early stages the patient will often resist, hold his breath, engorge his venous system, and, later, takes deep inspirations, thus filling his lungs with chloroform vapor. Should the patient die in this stage the left heart will be found empty; in the second stage it is filled with blood. This blood comes from the lungs and is charged with chloroform. The chloroform passes into the coronary arteries and the heart is thrown into paralytic dilatation. The pulse always ceases before the respiration.

The treatment called for in the early syncope of chloroform narcosis is the raising of the trunk, lowering the head and rhythmical compression of the heart by manipulating the præcordial area. By this method the coronary arteries are emptied and filled, the heart thus receiving a fresh supply of blood. These methods can be resorted to in the late stages of narcosis. If they fail we should think of artificial respiration, inversion of the patient with compression of the floating ribs, which forces the blood into the chest, bandaging the extremities, pressure over the umbilical region, dilatation of the anal sphincters, inhalations of amyl nitrite, hypodermic injections of atropine, digitalis, ether, strychnine, nitro-glycerine, etc.

In the treatment of collapse under chloroform we should not think of saline transfusion unless there has been marked hemorrhage. When it is remembered that the relaxed vessels of the body will hold many times the normal quantity of blood, and we can inject salt solutions into the vessels to the extent of several times the normal volume of blood without increasing the blood pressure, it at once becomes plain that the complete vascular relaxation caused by chloroform results in failure of the vital functions, not due to paralysis of the heart, but because the heart is robbed of blood by its stagnation in the widely dilated vessels. Thus we can readily see that saline transfusion would be of little use, because the dilated vessels will receive the saline solution for some time before it will reach the heart, for as fast as the fluid flows in they dilate.

I suppose that every one who has given chloroform at night has been at times more or less annoyed by a penetrating odor resembling sulphur fumes. It has been demonstrated that chloroform rapidly decomposes when its vapor comes into contact with an exposed gas light, evolving poisonous vapors known as phosgen. This vapor is irritating to the respiratory apparatus. When chloroform is administered by gas light the poisonous vapor of phosgen can be avoided by protecting the gas jet with a closed glass case furnished with abundant provision for the rapid escape from the room of all decomposition products.

It is claimed by some that chloroform, when used as an anæsthetic, does not disturb the renal function. I do not believe it. From my own investigations I am led to believe that chloroform produces a certain degree of renal irritation, but the irritation is markedly less than that produced by ether.

The practiced expert will admit that chloroform, when given in combination with pure oxygen gas, is the safest general anæsthetic known, and although later times may bring newer and better methods of producing general anæsthesia, we will always be indebted to Dr. H. L. Northrop, of Philadelphia, who first demonstrated in 1893 the practical use of that combination of oxygen gas with chloroform now so popular and which has increased so much the safety and application of the anæsthetic.

It may be interesting in this connection to state that notwithstanding the introduction of chloroform to the medical profession as an anæsthetic was due to the celebrated Scotch surgeon, Sir James Simpson, it was discovered by a retired army surgeon of 1812 at his laboratory at Sag Harbor and was called by him sweet whiskey. The world then is indebted to America for its two great anæsthetics, ether and chloroform, which have rendered the triumph of modern surgery possible.

THE CONSERVATIVE TREATMENT OF ENLARGED PROSTATE.*

By Ap. Morgan Vance, M.D., Louisville, Ky.

THIS troublesome condition, from which most old men suffer, has been so much discussed lately that I feel a hesitancy in bringing it up tonight. I am also considerably embarrassed over the title of this paper, as I have always been classed among the operators, and I find some

* Read before the Louisville Surgical Society. Stenographically reported for this journal, by C. C. Mapes, Louisville, Ky.

difficulty in handling the conservative side of any question.

Of course, like every general surgeon, I have had to deal with many cases of this disease, if it may be called a disease, and to-night I wish to give the conclusions arrived at as to the best way to manage them. I will discuss neither the etiology nor the pathology, but simply the treatment.

The history we receive when called to a man suffering from the effects of an enlarged prostate is nearly always the same. He has been compelled to get up at night to relieve his bladder for more or less times according to his age, and after some exposure or from circumstances beyond his control he has been unable to void his urine until the bladder is distended, when he finds urination impossible. His age may be anywhere between forty-five and a hundred years when this first difficulty arises. Often at this first call a fatal mistake is made by the medical attendant, and that is in the use of a catheter and the prescription for one to be used by the patient. The average catheter, if a soft one, is taken from the inside vest pocket, where possibly it has rested for days or weeks since it was last called into service. If thoroughly washed it would not recognize itself. Unfortunately this is rarely done, but on top of its already foul surface is smeared some rancid lard or other lubricant furnished by the family, and into the bladder it goes. The result is easily to be imagined. If the attendent carries a pocket-case, a still more diabolical machine is forthcoming—an old, jointed silver catheter, that could not possibly be cleansed—and much more damage is done from rough usage. A catheter cannot be rendered aseptic by the ordinary patient, and should be used only by one thoroughly acquainted with its dangers, and by him as little as possible even then. This little instrument kills more old men, and makes imperative the call for grave surgical interference, many times oftener than does the simple enlargement of the gland. It is the first step in the majority of cases towards a consultation with the undertaker.

The proper management of this condition depends almost entirely on the education of the patient in matters of prevention. He must learn how to avoid a repetition of the retention, and so insure a complete emptying of the bladder at each micturition. I will outline the methods to be employed to this end, and detail simply the treatment to be used in a typical case.

As indicated above, the last thing to do is to use the catheter. If there is no organic stricture from an old urethritis, in ninety-nine chances in one hundred the bladder can be emptied under the relaxing influence of a hot hip bath, given in front of a fire in a very warm room. If this should fail, put the patient in bed, wrapped up in warm blankets, and carefully pass a series of solid sounds well lubricated with sterilized oil; at the same time give quinine, 10 grains, with phenacetine, 5 grains; wait half an hour and try the hip bath again. I might be asked, Why not use a catheter instead of a sound? Simply because the weight of the sound enables you to enter the bladder with much less difficulty and less danger; at the same time it dilates the canal through the congested prostate, and if the urine is not then voided voluntarily a catheter will follow the sound with less difficulty than if used primarily. Advise the patient to remain in bed, empty the bowels by an enema, if this has not been done before the bath, castor oil to follow, and the next urination will be accomplished with little difficulty. Before discharging the patient give him very full instructions as to his future actions. He should dress very carefully, wearing warm flannel underwear; warm, thick footwear; heavy, thick shoes, as, of all the causes of trouble, cold is the greatest. His urinating must be done in a warm room, and not in the yard, clad only in his shirt. His bowels should be kept regulated, and he should be very careful in his eating. Alcohol in moderation does good for almost all old men.

He should, by the use of abundant pure water, either carbonated or not, keep the urine pure. Boric acid is the sheet-anchor as a medicament for this purpose, salol coming next; strychnine may be given if there is need of general muscular tone. Opium should never be administered to a man with an enlarged prostate. Often have I known old men to be started rapidly on the downward path by an hypodermic injection of morphine given to relieve the pain due to some accidental injury. Opium destroys what little power there is to empty the bladder, necessitating the catheter, and the usual consequences. Advise against old men marrying young women. One old fellow of seventy-six years, I remember, said: "'Doctor, whenever I have anything to do with a girl, blood passes with my urine.'" Following this idea there should be absolute avoidance of all aphrodisiac remedies.

The disturbances at night can be reduced by withholding fluids late in the day, but at midnight, if awake for the purpose of emptying the bladder, I have found that a cracker with a glass of milk will often help to gain sound sleep the remainder of the night. Old men get hungry and need food oftener than the ordinary three times a day.

Of course any intercurrent troubles, such as oxaluria, or the uric acid habit, should be carefully attended to and proper attention paid to the functions of the skin.

If these simple rules be followed, I feel sure that the vast majority of these cases will live with fair comfort, and will thus be able to avoid the catheter, which, I am sure, is the cause of nearly all of the conditions which call for the now too prevalent surgical procedures of cystotomy, castration, the ligature operation and the removal of the gland. Old men do not bear surgery well, and the miserable conditions which make them submit to almost anything are due not to the enlarged gland but to the tinkering with a viscus, which tolerates any entrance from without very poorly.

The common practice of irrigation is to be condemned; use the kidneys as an irrigator and better results will come. As a rule the necessity for getting up at night can be reduced to one time

after retiring. Many times have I carried old men up into the eighties without ever using the catheter, having been first called to relieve retention. It may so happened that I have had to deal only with moderate degrees of hypertrophy, but I do not believe it. I would almost rather give relief by the aspirator than the catheter, so convinced am I of the banefulness of its use. This may sound very simple in the face of recent work in the way of radical treatment for relief of the effects of enlarged prostate, but we all know how prone we are to take up new fads in surgery, as well as in many other things. After watching the reports *pro* and *con*, I am inclined to doubt that there is really any good effect other than that resulting from the increased care given these old patients after the operation of castration or the use of the ligature. They are trained to take better care of themselves in consequence of the operation, and some of them do better; but there is no question but that the mental effect is often very distressing. The operation of removing the gland is certainly one of great difficulty and possessed of considerable danger; it could not be otherwise from the very nature of things, and few men will submit to it. The drainage by cystotomy is all right for the relief of cystitis due to the infection from without. When cystitis is not present, or will yield to rest and proper treatment through the kidneys, I think it never justifiable. You can always dilate and keep dilated the prostatic urethra. I will here mention the case of an old man aged eighty-two years, in which I was the consultant, where a nasty cystitis was present—due evidently from the history to a foul catheter—where the epicystotomy was made very easy by simply cutting down on the point of a large, hollow staff, fully a No. 36 size, which was passed into the bladder without difficulty.

I reason that the vast majority of the men who reach the so-called catheter age live out their natural lives without the aid of the physician or the surgeon. Now it is admitted that nearly all old men have prostatic hypertrophy, but only a small per cent. of them have the accidents mentioned, and have to run the gantlet of the catheter brigade with the risk of having added to their bearable trouble chronic cystitis, urethral fever, perineal abscess, etc., etc. Please try this conservative management of your old men patients, and those of you who are prone to operate so often will change your minds.

Dr. I. N. Bloom: Whenever a subject comes up for discussion concerning which there is so much literature in the journals and books as hypertrophy of the prostate, you may be certain that it is a disease the management of which has been unsatisfactory both from the standpoint of the physician and the patient. I asked Dr. Robins to look over recent issues of the "Journal of Cutaneous and Genito-Urinary Diseases" and select those containing articles on the treatment of enlarged prostate; he went back for a period of two years, and with few exceptions in every issue there was a contribution from the pen of some author on the subject.

Referring more particularly to the excellent paper read by Dr. Vance, I endorse everything he said concerning the treatment of enlarged prostate, but think he is mistaken when he says that most old men have this disease. Sir Henry Thompson estimates that 14 per cent. of old men have enlarged prostate; further, he says he has never seen such a case in a man under the age of fifty-four years. I would endorse the paper almost entirely if the author had limited it to those cases which he sees from the beginning, but I believe it is the experience of all those who treat such diseases that he has not been the first nor the second physician in the case. Almost all such come to me after having been in the hands of the family physician; then they have probably been seen in consultation, and as a result of the consultation they have passed through the hands of some one else, often a specialist, more frequently the surgeon. If we could see these patients early I think in most cases the methods suggested by Dr. Vance would be the best treatment. I would add to that what has been a favorite of mine, and mentioned in the work of Sir Henry Thompson, evacuation of the bowels by means of saline cathartics, and would recommend equal portions of Frederichshall water and Carlsbad salts. This combination seems to act especially well on the kidneys as well as the bowels, and we have its beneficial effects upon the bladder. The use of the catheter should be delayed as long as possible. So far I am in accord with Dr. Vance, but there are cases where it is utterly impossible to do without the catheter. That the catheter is used in many cases far too early is certain. To illustrate a point, I will briefly mention the case of a gentleman who applied to his physician for treatment because of some trouble with the urine or bladder three years ago, and was told at once to use a catheter. He did so for two or three days, and being a very bright man, with the history of a brother who had suffered in a similar manner before him, he left his physician and went to Dr. Palmer, who very properly forbade the use of the catheter. After Dr. Palmer's death he came to me. I mention these points to show how quickly some physicians will advise a patient to use a catheter. The only symptoms he had were, at times, stoppage of urine, which would pass off, and he would have to get up two or three times at night to empty his bladder.

When I saw him his urine was perfectly free from catarrhal signs; it was clear, no abnormal elements in it, the amount was normal. With a finger in the rectum, I found an immensely enlarged prostate. At the second or third visit the waters I have mentioned were prescribed; he was ordered to drink large quantities to thoroughly dilute the urine. I had him urinate at my office; I passed a catheter afterward and found no residual urine. I feel certain if he had followed the advice of the first physician he would have gotten into the deplorable condition mentioned by Dr. Vance.

An advantage of using the sound where necessary in these cases is that this instrument can be

gotten into the bladder frequently, where, because of the tortuous course, owing to the condition of the prostate, introduction of the catheter would be impossible. Even in cases where it becomes necessary to use a catheter by first introducing a sound, which can be readily sterilized, a carefully sterilized catheter will follow withdrawal of the sound with ease, and it may never be necessary to use it again.

A point which Dr. Vance did not sufficiently emphasize is the importance of rest in these cases; we should enjoin rest in bed where it is possible. It is better for the patient to pass a week or more in bed. With rest alone he often improves rapidly.

I do not believe that cystitis is always produced by the catheter. There are many other conditions which may act as a causative factor in the production of cystitis; we may have a cystitis following surgical operations, because of deficient tone or muscular strength of the bladder, even after mechanical obstruction has been removed. Where hypertrophy of the prostate causes any serious disturbance, in the vast majority of cases the median or lower lobe is affected. In many of those cases where the hypertrophy is felt through the rectum, and it is comparatively small and the case is severe, it is due to the median lobe. The lateral lobes may be considerably enlarged and yet may give no trouble whatsoever. Therefore, in general I believe the conservative method should be practiced far more than it is, and above all the conservative method should be practiced from the start. When the hypertrophy is made out through the rectum, though the symptoms may be slight at first, then I believe the man should undergo the treatment I usually employ in these cases, that is, the injection of hot water, as hot as can be borne, into the rectum, and as much as can be retained. Hip baths should be frequently given. When this treatment is carried out through the acute stage and the patient kept in bed much of the conjestion of the prostate will subside. I am satisfied any one who has examined many of these cases will agree that there is an abnormal lengthening of the prostatic urethra which is caused by this congestion. When the congestion is great the prostatic urethra may be from one-quarter to three-quarters of an inch longer than it is when the congestion has subsided. There is a certain amount of forward enlargement, and when this enlargement is prominent it is always due to the intense congestion which is present.

I am satisfied that five or six years ago I lost a patient because of hypertrophy of the prostate whom I might possibly have saved if he had been treated by the more modern methods. A man came to me with a violent cystitis, with albumin in the urine, a mixture of blood and pus, difficult micturition, etc., together with an immensely enlarged prostate. I did not feel at the time that an operation was justifiable, and let the man go on. He died in less than a year, the kidney becoming involved and a diagnosis of pyelitis having been made.

There is considerable dispute as to the advisability of castration for hypertrophy of the prostate. This procedure is too recent for us to determine the matter definitely. It has only been three or four years since double castration has been advised for this condition, and its value has not yet been fully determined. We have in current medical literature reports which show favorable results, and we also have reports showing unfavorable results or none at all. I believe that milder procedures should be resorted to first rather than these severer forms. Where prostatecomy is indicated, whether we shall adopt the superpubic or the perineal method depends largely upon the individual skill and ability of the operator. It is claimed by Fuller that supra-pubic prostatectomy is comparatively easy. The perineal method would seem to be the most rational, as by this plan we can reach the prostate more easily, and I am satisfied that much of the obstruction would not be reached in operating through the abdomen.

Dr. W. O. Roberts: As Dr. Bloom has stated, all men do not have enlargement of the prostate, but a considerable proportion of them are so affected, and they are affected in different ways and from different causes. The prostate may be considerably enlarged, still not give any trouble. Then, again, it may be enlarged to such an extent that the calibre of the urethra is very much diminished in size. In a case of this kind relief is obtained by the introduction of sounds, dilating the prostatic portion of the urethra. I am satisfied that I have seen most excellent results from this method of treatment. However, where the trouble is due to hypertrophy of the middle lobe of the prostate, we will find that the patient is unable at any time to thoroughly empty his bladder. In such cases the catheter is a necessity. The ordinary gum catheter very frequently cannot be made to enter the bladder. In such cases we should use an instrument made especially for the purpose with a little short crook at its end. In cases of this kind I think supra-pubic cystotomy is the operation, and remove a portion of the enlarged lobe of the prostate, if possible, the patient being afterward able to completely empty his bladder. I can recall one case, which has already been reported to one of the medical societies, where a patient was referred to me by Dr. Palmer, in which I did this operation. The man made a good recovery, and was able to pass his water afterward by the normal channel. I read a letter from his son, who was a physician, stating that the patient could pass his water as well as before he had any bladder trouble.

I have had no experience with castration, with resection of the vas, or with prostatectomy. I have done a great many supra-pubic cystotomies for the relief of such cases, and am satisfied that patients get along better by draining the bladder in this way than by the constant use of the catheter.

Dr. J. M. Mathews: The treatment of enlarged prostate is a little out of my line, but I have a few words to say. In my calling I suppose I have opportunity to examine as many prostates with the finger as most of my friends here. In every

case that comes to me complaining with rectal trouble I insert my finger into the rectum, and consequently in the male I can feel the prostate. I have been surprised at one thing, *i. e.*, that in many men at thirty years of age to find the prostate as large as in many men at sixty years of age. It has been a common observation of mine, and I have noted it time and again, where patients have had enlargement of the prostate they gave a negative venereal history. I regret that Dr. Vance did not see fit to mention more of the etiology of this condition of the prostate, whether it is true or not that early indiscretions, masturbation, venereal diseases, excessive use of alcoholic spirits, anything that might have an effect upon the generative organs, what part these conditions play in hypertrophy of the prostrate gland. I have seen men and examined them who all their lives were addicted to all these vices combined, yet they had no enlargement of the prostate gland. They were not only addicted to these vices, but had stricture of the urethra, had had long-continued gonorrhœa, etc., without any evidence after the subsidence of the same showing its effect upon the prostate gland.

It will be noticed that Dr. Vance's objection to the use of the catheter is mainly that its use is practiced by the patient, and that it is not aseptic. When I recall my experience in the country, and I believe it is the common experience of all those physicians who have practiced in the country, I have known of men, young and old, who have used a catheter for years and had none of the evil effects which we know and recognize as being true ; that many of these people used a catheter for many years, and that the catheter was never aseptic goes without saying. Still this is no argument, but it is the truth.

The doctor states that in the majority of instances a septic catheter is used. Let him prefer some objection to the use of a catheter which is clean. There is no denying the fact that there are numbers of cases of enlarged prostate that cannot be relieved in any other way except by the catheter. We know that in an old man's prostate atrophic changes take place, there is an engorgement of the prostate gland, bladder, etc., and that there is a large amount of residual urine in the bladder at all times. You may bring about micturition by hot applications, hot baths, etc., yet there is urine remaining in the bladder, and this residual urine, being ammoniacal, exercising its destructive force upon the bladder itself, would certainly do as much harm as the use of a clean catheter. Another thing to be taken into consideration is the diagnosis of the condition of the prostate gland itself. What is the change in the prostate? If there is simply an even, smooth hypertrophy of the entire prostate, it is a very different thing from having the lateral, or, in fact, either, lobe encroaching upon the bladder itself. There are some conditions of the prostate through which no man can introduce a catheter. Therefore it would be foolish to talk about the introduction of a catheter, or the operation of supra-pubic or perineal section being adapted to every case.

As to the treatment by dilatation, with which we all agree if it could be done would be best, I must confess that as far as my observation goes, in those men who cannot pass their water because of an enlarged prostate, that you might succeed sometimes in making them pass their urine under the measures the essayist has mentioned, but that the trouble is due to anatomical change I do believe, and because of this fact the catheter will have to be resorted to at last. In those cases where you can instruct your patient how to prepare, keep and insert a catheter it is certainly more rational than drawing away urine in the manner described by Dr. Vance.

Dr. Bloom mentions the injection of hot water into the rectum in these cases, which will be found most serviceable. But there is one agent which will quiet an irritable condition of the prostate more than hot water or any other agent that I have used, and that is iodoform. It is wonderful the effect this drug has on an irritable prostate. To illustrate, I will mention a case whom I treated not long ago, seeing him for the second time, a young man from Lexington, Ky., who gave a very remarkable history, and though his history has nothing especially to do with his case, I beg to digress from the subject a moment and give it in a few words. He had been treated for three years by the first physicians and surgeons of the country for nocturnal pollutions. He told me he would have as many as six or eight at night consecutively for weeks at a time. In addition to this he admitted having a mistress with whom he had sexual intercourse from three to four times each night. He said, however, that all this had no effect upon him. I may add also that the patient had but one leg, having lost the other by accident. He had been treated by all manner of ways, the introduction of cold sounds, etc., by the best physicians and surgeons, and the reason he came to me was that he had a bearing-down sensation in his rectum, as if some pressure were being exerted, and which I thought was probably due to an enlarged prostate. I put the man on my examining table and introduced my finger into the rectum, and the moment I touched the prostate gland he nearly jumped from the table, it was so exceedingly sensitive. So far as his nocturnal pollutions are concerned I have nothing to say. I gave him at that time no prescription, but he came back to see me, and said that his rectum was out of order and wanted me to do something for it. I gave him an injection of iodoform, subnitrate of bismuth and almond oil. Relief was so marked that he asked for some of the medicine, which I gave him. He took it home and after using it for a week once a day wrote me that his trouble had entirely ceased. He visited me, as I have said, the second time a few days ago, and said that since using the iodoform mixture he had had only one seminal emission.

I cite this case to suggest the advisability of using injections of iodoform, subnitrate of bismuth and almond oil in cases of the character under discussion where indicated, and to emphasize the good results obtained by this treatment in a case of irritable prostate in connection with some rectal trouble.

A RESUME OF THE USE OF WATER IN THE TREATMENT OF DISEASE.

By Gove S. Harrington, M. D.

THE history of the use of water in the treatment of disease dates back to the time of Hippocrates, Galen and Celsus. But up to the latter part of the last century it received very little attention at the hands of physicians. In 1797 Dr. Currie, of Liverpool, published his book entitled: "Medical Reports on the Effects of Water, Cold and Warm, a Remedy in Fevers and Other Diseases." The book ran through several editions, and was translated into the German language, which spread his treatment far and wide. It met with much favor and at the same time much hostility. He advocated the use of baths and water internally; chiefly as cold drinks in fever, and it was upon this point that the battle waged most fiercely. Doubtless many of the older practitioners can recall the time when water was strictly forbidden a fever patient. Fortunately for him, few are left who advocate that treatment. Dr. Currie was greatly handicapped by the imperfect clinical thermometers then in use, so that he was unable to make accurate observations as to the effects produced by the bath. However, it is but just to say that to him really belongs the credit of being the pioneer in using hydrotheraphy as practiced to-day.

About the year 1829 the use of water in the treatment of diseases took on an entirely new phase. Previous to this, water was considered merely an adjunct in the treatment of all febrile diseases. The above mentioned change was brought about by Vincent Priessnitz, a Silicient farmer, who after obtaining excellent results in the treatment of bruises and sprains in animals by the use of water alone, advocated and began to use the same treatment in all forms of disease in man. He was remarkably successful in curing cases which had baffled other physicians, and his fame as a healer spread far and wide. He soon had among his clientele many of the nobility of Europe and numbers of physicians. Many of the latter came to see him and his treatment merely out of curiosity; but the others came to be cured of diseases which they had been unable to successfully treat themselves.

Priessnitz, unfortunately, was unlearned in the science of medicine and consequently most of his theories as to the cause of disease are untenable. He held that disease was due to acrid humors in the blood which must be gotten rid of by dilution with water. He also observed that an eruption appeared on the skin after his treatment had been applied for some time and he called it "the crisis." But we now know that the continuous application of water will produce an eruption and maceration on an entirely healthy skin.

Priessnitz was very ingenious in his methods of applying the water treatment and employed as adjuncts plenty of exercise, fresh air and a plain, regular diet. His treatment rapidly gained favor and created quite a furor in medical circles, despite the scathing condemnation it received at the hands of his opponents. At one time there were sixty-five institutions in England and Scotland alone devoted to the treatment of diseases by his methods, which have received the name Hydropathy in contradistinction to Hydrotherapy as employed at the present time. But like many other good things in medicine the injudicious employment of Priessnitz's methods brought about unfavorable results and consequently the treatment has been gradually abandoned. Up to 1861 no reports had been published of a truly scientific character because they lacked scientific method and carefulness of observation. In that year Brand, of Stettin, published his reports of the treatment of typhoid fever by the use of cold baths. These reports bore the marks of real scientific investigation, and herein lies the immense credit due to Brand.

His method consists of the use of the cold bath with friction and stimulation if necessary whenever the patient's temperature reaches a certain point. A large bath tub half full of water from 60° to 70° Fahr. is kept at hand, and whenever the patient's temperature reaches 102.5° Fahr. the tub is wheeled to the bedside and he is given a bath. His clothes are removed and he is wrapped in a sheet and either assisted or lifted bodily by his nurses into the bath. As he enters the bath, water is poured over his head to lessen the shock. While in the bath, which should cover his entire body and neck, he is briskly rubbed through the sheet and stimulants administered if necessary. The friction, affusion and stimulants serve to control the cyanosis and shock which usually come on at the end of ten minutes. After fifteen or twenty minutes he is taken out, the wet sheet quickly removed, and he is wrapped up in a dry one and covered with a light blanket.

The temperature is taken in the rectum immediately after the bath and three-quarters of an hour later. The patient often strongly objects to the bath, and shivering and cyanosis almost always follow. Frequently a stimulant is given after the bath. The only contra-indications are peritonitis and intestinal hemorrhage. Bronchitis and pneumonia are not induced by this treatment, and their existence does not contra-indicate its use; likewise pregnancy is no contra-indication. It is not necessary to renew the water more than once in twenty-four hours. The advantages claimed for this treatment are: (1) The reduction of fever; (2) The clearing of the intellect, and the lessening of the muscular twitching; (3) The quieting and soothing effect produced, the patient usually falling asleep shortly after the bath; (4) The stimulating action on the heart and skin; and (5) The most important of all—the reduction of the mortality. The latest statistics Brand has published are really remarkable. Out of 1,223 tabulated cases treated by his methods only twelve deaths occurred, a death rate of only 1 per cent., and of these twelve cases none of them came under his treatment until after the fifth day of the disease. In fact Brand claims, after an ex-

perience of over thirty years, that every case of typhoid fever will recover if his method of treatment is begun before the fifth day. It will be noted that his methods are scientific, having given explicit directions as to how the bath should be given and the reasons and indications for each procedure. First, the bath is given only when the temperature reaches 102° Fahr. or over; Second, douching the head with cold water and the use of brisk friction to prevent shock and cyanosis; and Third, the use of stimulation as the case demands.

It is therefore highly important that this treatment should be intrusted only to the physician or competent and experienced nurses. It is often very difficult or impossible to rigidly adopt this treatment in private practice, and Dr. Osler and others have advocated putting the patient in a bath of 85° or 90° Fahr., and gradually cooling it down to 70° Fahr., but these baths do not reduce the temperature as do the Brand baths. Furthermore it must be continued longer. It, however, does not produce so much shock, and is therefore better adapted to children, to the aged and to cases where there is great debility.

It might be well just here to summarize the effects of cold baths. They have two distinct and opposite actions: The primary effect being depressing; the secondary stimulating. These effects are controlled largely by the temperature of the water; the colder the water the greater the depression and likewise the stimulation. But the length of the bath also has much to do with it. When it is of short duration the effects are correspondingly diminished, but great care must be exercised lest it be too prolonged and the depression too great. A cold bath below 50° Fahr. cannot be borne for many minutes. With the primary effect there is a contraction of the capillaries and a tendency for internal congestion. Hence the contra-indication in peritonitis and where there is internal hemorrhage. The skin becomes pale and a sensation of numbness is experienced. As the bath continues the effect is propagated along the nerves and affects the centers, which in turn cause blueness, trembling, a sense of oppression of the chest, and the pulse becomes smaller and slower. Hence the necessity of friction and stimulants during the full cold bath or pack. During the bath there is also a reduction of temperature which may continue from fifteen to forty-five minutes after the patient is put to bed.

The reaction comes on shortly after the bath, and the more powerful and depressing its effects, the quicker and more pronounced is the reaction.

With it there is a feeling of glow and redness of the skin; a stimulation (1) of the heart, the pulse becoming fuller and slower; (2) of the respiration, which becomes deeper and less frequent; and (3) of the skin and kidneys, as shown by the increased perspiration and flow of urine. The temperature also rises again, and therefore the baths must be repeated.

Another method of applying cold water is that used by Leiter; this consists of coils of rubber tubing placed upon the abdomen, trunk and head, through which flows a continuous stream of cold water. This is easily done by placing a vessel at some elevation above the bed and connecting the tube with this and letting the water escape into another vessel placed below the bed. It possesses the advantage of requiring very little attention, simply the occasional filling of the upper vessel and the emptying of the lower one, and besides there is no wetting of the clothing. This method, however, is insufficient to cope with high temperatures.

The cold pack is frequently employed as an antipyretic, and can be used even when the temperature has reached 104° or 105° Fahr. It is given as follows: Having protected the bed with a rubber sheet, the clothing of the patient is removed and he is wrapped in a sheet wet with water 60° to 65° Fahr. He is then briskly rubbed through the sheet, and from time to time, cold water is sprinkled on the sheet from an ordinary watering pot, in order to keep it wet and cold. After the pack, the patient should be quickly dried and covered with a light blanket, and may require some stimulants. The use of friction is very important with the cold pack and should never be omitted. The process is very slow and gives a great deal of trouble, so it is not so much used as formerly.

The cold sponge bath is the most used in private practice. It is applicable to almost any case where a moderate reduction of temperature is desired, and it is often very effective where there is much nervous excitement. The anterior surface of the body is sponged off with water 55° to 80° Fahr., to which it is my custom to add 20 per cent. to 35 per cent. of alcohol, which is slightly stimulating, and by its rapid evaporation increases the antipyretic value of the bath. The patient is then turned on his face and the back sponged. He is then covered with the sheet and light blanket.

The bath may last ten minutes and may be repeated as often as every two hours. It is very agreeable to the patient, and if properly given does not shock or fatigue him. The thin rubber bag or bladder, filled with cracked ice and applied to the head, will reduce the temperature, lessen the cerebral congestion and quiet the nervous symptoms. It may be used with safety in almost all diseases where the brain and its coverings are involved.

The tepid bath, 85° to 95° Fahr., is used to some extent. It has no antipyretic effects, its action being confined to the peripheral ends of the nerves, and there is no reaction. The value of the bath lies in its action upon the skin, removal of the dead epithelium and the products of the sebaceous and sudoriferous glands, and supplying moisture. These results are obtained in any of the other baths.

Warm and hot baths, 96° to 110° Fahr., produce relaxation of capillaries, muscles and tissues in general. They cause congestion of the capillaries by bringing the blood to the surface, followed by contraction. They raise the temperature by the supply of heat they bring to the body, and by

preventing the radiation of heat from it. They increase oxidation by reason of the heat they supply. They are mild stimulants to the heart, lungs and skin, and can be borne a longer time than the cold baths and produce no shock. They also have a marked quieting effect on the nervous system. Frequently a little mustard is added to increase the irritating or counter-irritant effect upon the skin.

They are therefore of value in cases of internal conjestion, convulsions, spasms and insomnia.

In the convulsions of children, a hot bath to which a little mustard has been added, followed by the application of cloths wrung out of very hot water to the head gives very gratifying results. In renal colic a hot sitz bath, together with a high enema of as hot water as the patient can endure, has been successful in relieving the pain. The sitz bath may be cool, warm or hot, and is employed in pelvic congestion and spasm.

The hot douche is used in similar cases. Prof. Heubner, of Berlin, uses the hot bath in bronchopneumonia and capillary bronchitis in children, and at the end of the bath the chest is douched anteriorly and posteriorly with cold water 55°, 65° Fahr. The advantage he claims for it is that the cold douche causes the child to take several deep inspirations and thus breaks up slight occlusions and prevents collapse of the lung.

The last bath to be mentioned is the vapor bath. It produces profuse perspiration, cleanses the skin, can be borne for a long time and its temperature may be much higher than the water baths. It is of great value in nephritis. An easy method of giving it is as follows: Put the patient between blankets which are well tucked in at the sides of the bed and about the neck and shoulders, and on the floor beside the bed either an oil or gas stove, preferably the latter. On this is placed a copper kettle partially filled with water and raised to boiling; a rubber tube is put on the spout of the kettle and taken up under the blankets, care being exercised that the steam does not strike the skin just as it leaves the tube. This bath is continued until the patient is in profuse perspiration and only requires the adding of more water in the kettle when necessary.

In the giving of baths there should never be any haste or excitement, and it should be done with as little effort on the part of the patient as possible; otherwise the patient becomes excited and unnecessarily taxes his strength. The urine should be voided before the bath and it should be given after stool if there is diarrhœa.

In conclusion I will say that the concensus of medical opinion is that the most scientific position to take on the subject is that in which water is used as a remedy in every way in which it has proved itself useful without restricting its use, while at the same time care should be taken to avoid all ill effects.

"I fear, madame, your poor husband is dead," said the doctor. "No, I ain't," said the supposed corpse. "Hush, John," said the wife, "the gentleman must know better than you."

The Progress of Medicine.—Dr. Austin Flint, Jr., said in his address on the progress of medicine: "It is a matter of congratulation that the name of this body was early changed from National to 'American Medical Association.' We have good reason to be proud of American medicine, and our great representative association may properly claim a distinctive title When one is able to call up at random the discoveries in gastric digestion, anæsthesia in surgery and obstetrics, the successful deligation of the arteria innominata, the operation for vesico-vaginal fistula, ovariotomy and intestinal anastomonis, to say nothing of minor advances in medicine and surgery, can we not claim a distinctive place for American medicine? It is in the United States that advances in the science of medicine find the most ready acceptance and appreciation. The American physician is the most intelligent and judicious therapeutist, and in the United States are the best and safest surgery and gynæcology.

"I hope to see, beginning with the second half century of the American Medical Association, a more complete unity of the profession through its authority and influence. In the matter of general professional welfare there seems to me nothing more important than uniformity in medical legislation, and so far as possible, in educational requirements preliminary to the study of medicine and for license to practice after graduation. Admitting the proposition that the profession is crowded, it is evident that this condition is most serious in the large cities; but overcrowding cannot be prevented by legislative enactment, except in so far as unqualified men are excluded. Uniformity of legal qualifications to practice medicine in the different States can best be secured by making every State society actually as well as nominally a branch of the American Medical Association, with permanent committees from each State organization, together to constitute a central legislative body. The object of this central body should be to secure uniform medical laws in all the States, making any State license valid for all, and a matriculation certificate for one State good for matriculation in all schools represented in the Association of American Medical Colleges. A certain kind of medical instruction must be concentrated in large cities, where clinical material is abundant; and absolute uniformity of curriculum cannot exist in all colleges; but certainly the legal requirements for practice, as determined by examination by State boards, can be made practically identical for all the States. While this would not prevent ambitious young men from trying their fortunes in large cities, it would distribute well-qualified physicians more equally in the country at large and tend to raise the standard of qualifications and usefulness of the average country doctor."

Dr. Horatio C. Wood offered a resolution, which was promptly passed, protesting against the bill reported by a committe to the United States Senate "regulating" animal experimentation within the District of Columbia. Dr. Wood spoke with much energy. He said that there were 100,000 physicians in the country. If they exerted their strength they would be irresistible. Yet here was a bill which actually means the extermination of animal experimentation being pushed through the Senate by well-meaning but ignorant enthusiasts, which would crush ultimately the growth of scientific medical knowledge. The bill, he said, requires that every man who experiments upon animals shall be licensed. Moreover, he is to be subject to examination and may be put on trial for criminal misdemeanor. Every scientific body in the United States has protested against this bill.

The able and practical address of Dr. John B. Hamilton on "Tuberculosis and Its Prevention," marked a fitting close of the department of preventive medicine, and now let the civic authorities go to work and utilize the advice which is at their service.

Umbilical Hernia in Infants.—Tobas draws up a couple of cutaneous folds around the navel, and closes them over it with a soft pad between, holding them in place with strips of diachylon long enough to reach from side to side of the abdomen, reinforcing the support with a couple of vertical strips of plaster. He removes the dressing once or twice a week.

THE TREATMENT OF THE DYING.

Munk (*Practitioner*, July, 1896; *Therap. Gaz.*) says he knows of nothing in our attendance on the dying more gratifying than to witness the improvement in face, feature and expression that marks the kindly action of opium under these circumstances [the feeling of exhaustion and sinking referred to the stomach and heart in the dying]. In an hour or thereabouts after it has been taken, some color returns to the face, the features lose somewhat of their sharpness, a placid expression replaces the look of anxiety, and the sufferer passes into an easy, gentle sleep, from which he awakes refreshed and comforted, and helped, as it would seem, to die more easily when his time arrives.

Hufeland, writing at the end of a long professional life, did not hesitate to declare that opium is not only capable of taking away the pangs of death, but it imparts even courage and energy for dying. It must be administered in such dozes as will appease suffering and disorder, and in this respect we are to be governed solely by the effect and relief afforded. The dose for an adult should be rarely less than a grain, but oftener more. The effects of opium continue for about eight hours, and if its action is to be maintained it should be repeated at intervals of that duration or somewhat less. It should be given in liquid form, as the tincture or the liquid extract, or as morphine, of which the solution of the bimeconate is best. So long as the air-passages are not obstructed by secretion, so long as there is no lividity or even duskiness of the face, opium, if indicated, may be given in aid of the euthanasia, but if they are present it is hazardous and might hasten death. Much care, too, is needed in the employment of opium in cases where the heart is greatly enfeebled, and where the conditions directly or indirectly induced by opiates, especially that of sleep, may be just enough to turn the balance against it. A contracted pupil is also a contra-indication to opium. It implies a state of the brain which opium is likely to increase rather than relieve. And if food has been injudiciously pressed upon the patient so that the stomach is distended with it, and the epigastrium is full and tense, opium given by the mouth is rarely found to act kindly if at all. If, under such circumstances, the influence of opium is needed, we should resort to the hypodermic injection of morphine.

Prof. Ladd says in *Journal of Metaphysics:* "We cannot deny the facts of physiological psychology. No doubt consciousness depends on the condition of the brain. Drugs may modify character. Insanity may be produced by physical conditions. The decay of mind leaves no part of consciousness free. The way to meet this class of facts is not by denial, but by showing another class, another side of the same problem which makes as good a showing. While we believe that consciousness depends on the brain and on health, an equally significant fact is that the bodily state depends on the consciousness. The impressive thing is that bodily health is chiefly related to a state of the mind. It is rather more true that digestion depends upon feeling well mentally than that feeling well mentally depends on the digestion. If it is true that a hot iron burns the flesh, it is also true that burn brands have been produced by hypnotic suggestion. It is a reciprocal union, mind and body are correlated in both directions."

Moss as a Dressing Material.—Moss as a dressing material is extensively used in most of the surgical clinics of Europe. It is surprising that in this country it is still very little known (*Clin. Recorder*). It is believed by some surgeons to be the most desirable dressing material, because its absorbent power is five times as great as that of gauze. Furthermore, it is a very soft and adaptable material, and can easily be sterilized. It may be used either loose, after being put into gauze bags, or, preferably, compressed into tablet-like shape. Beck Carl has used moss-board extensively for the last few years as a splint. The board, after having been dipped in water, can be adapted to the contour of the body like a plaster-of-paris splint, over which moss-board possesses the great advantage of being absorbent and much lighter. It is indeed an ideal splint, and by reason of its thickness, is especially valuable in compound fractures. For should the discharges exceed the absorbent powers of the gauze directly covering the wound, the moss-splint takes up the superfluous discharge without impairing the usefulness of the board as an immobilizing agent. After operations in the inguinal region, it is excellent for protecting the abdomen and thighs, if cut in shape. It dries constantly while absorbing at the same time. After operations upon the bladder it is most valuable as an absorbent underlayer, the use of which prevents decomposition of the urine. It may further be remarked that the price of moss-board is very low.

The Treatment of Locomotor Ataxia.—Landon Carter Gray, of New York, stated that a study of seventy-seven cases of locomotor ataxia recorded in his case books had led to one conclusion—that in every instance the symptoms had been improved by treatment, and in a few the improvement had been startling. In most of them it had been satisfactory. In his opinion, rest was the most important part of the treatment, for every muscular movement involved a strain on the diseased parts. In the severer cases the patient should be in bed for weeks, whereas in the milder ones a few hours a day in bed might be sufficient. The amount of rest required varied greatly with different individuals. Whatever might be the rationale, it was certain that antisyphilitic treatment would often have a most startling effect on the progress of the case.—*Universal Med. Jour.*

A Sad Spectacle.—One of the most unfortunate, so-called-for and disgusting spectacles which men sometimes make of themselves, occured recently in St. Louis, at the close of a three days' session of an auspicious medical society. A so-called "smoker," one of the social features of the occasion, which had been widely advertised, and to which men of prominence had been invited, degenerated from a pleasant social gathering to a disgusting, vulgar and vile exchange of lewd jokes and foul, reeking stories, at which even the untaught, unpracticed barbarous men of the time of Moliere would blush. Such a disgusting spectacle shows how thin is the varnish of good breeding over some would-be gentlemen. It is deplorable that some men's idea of a good time is to delve into the recital of the experiences, real or imagined, of profligates who play with woman's virtue as does the cat with the mouse, or to hear some rake or hypocrite tell how he showed his wit in violating his marriage vows to his true and trusting wife. We wish to emphatically enter our protest against such loose morals in the medical profession, and especially among men who know better. Even a "Bowery tough" retains more finesse of feeling as regards consistency than such medical men as these, who pose at home, and with their wives, as honorable, virtuous men, yet when away from home, or absent from their wives, they display such disgusting, cold-blooded absence of sense of manhood, such debauchery of the finer instincts of a gentleman as would make even Don Juan turn over in his grave. We may be called puritanical, but there is one thing sure, our respect for womankind—for mother, sister and daughter—is so great that we cannot tolerate such shamful profligacy, such shameless cynicism, such shameless disregard of the virtue of woman, such wanton absence of good taste, to say nothing of the direful results which such expositions of corrupt manhood have on our profession. We believe that physicians should always preserve the *politesse de cœur*—which marks the gentleman, and never descend to the level of the rake, the debauchee or the prostitute, and the sooner such "smokers" are done away with, the better off will be the medical profession.—F. P. NORBURY, *in the Medical Fortnightly.*

The Medical Times

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MEDICAL CONGRESS.

THE World's Medical Congress, which will convene in the Imperial city of Moscow early in August, will be the largest and probably the most important gathering of medical men the world has ever seen. Every civilized country in the world will be represented in its councils, and in the discussions we shall be much disappointed if, in the concentration of thought, the rigid analysis of facts and the vast amount of learning which will be brought to bear upon every department of our profession, conclusions are not reached which will do much to do away with the angry conflict of theories by a better understanding of terms and a clearer apprehension of the process through which results are obtained. Possibly in the light of the present age some better names can be found for the dogmas of contraria and similia than those which now prevail. That of the former has long since been dismissed as illusionary; the latter, by the great majority of the strongest representatives of the practice, of which it is the motto, believe it unwisely chosen, failing to represent the curative action of remedies or the depth and breadth of the philosophy of Hahnemann. And yet it seems to us, however little we know of the action of drugs, of the process of disease and cure, Hahnemann struck the key-note of a scientific philosophy and of a sound therapeutics in the dual action of drugs, the pathological action foreshadowing and leading up to the curative action; in divesting drugs of their crudities and developing their full vital force, in the full recognition of germ life and its irritating, paralyzing action upon the vital forces. The key-note of asepsis which has changed the surgical and medical practice of the world, calling a halt to the onrushing tide of death, was struck by Hahnemann, and was one of the most important features of his philosophy.

Realizing the fact that putrefaction of animal or vegetable matter was the result of a fermentation dependent on micro-organism, filling the air with invisible agents of mischief and developing in the human body in the form of bacteria the deadly virus of disease, and that these poisons would find their way into the body through any breach of the surface or natural opening, Hahnemann insisted upon giving his patients sunlight and fresh, pure air, freed from the contamination of fermenting substances, with ablutions of pure spring water or that which had been distilled. Here was a full recognition and the utilizing of a principle followed out by Lister, Pasteur and their followers, until, with anæsthesia, it has driven away to a certain extent the shadow of death from the operating room and deprived the knife of its former terrors. It will not be denied that asepsis has done more during the past half century to clip the wings of death, to give hope to the dying and relief to suffering than any other measure, and that it is one of the grandest triumphs of the Victorian era, which has been so full of the practical results of scientific thought.

If the Elizabethan era can justly be called the age of literature, the Victorian era can as justly be called the age of science, in which the thought and culture of the past centuries led up to and prepared the way for the triumphs of the present. The time is past in which the wrangling of little minds leave their stamp upon the pages of history. From out of the struggles, the mistakes, the follies of the past, broader, stronger, clearer intellects have been evolved, in which a recognition of the brotherhood of man in the great field of scientific investigation is more fully recognized. The lines of experiment are followed by the great minds of the present day, not to build up theories, but to reach facts, analyzed and blended together with judicial fairness, so as to best develop and utilize the forces of nature. These are the minds we believe which wi l control the Medical Congress, and the results of their deliberation will bind in a stronger union the better elements of our own profession. The convention includes not alone the representatives of a single school, but the learned representatives of all schools will mingle together in council. Already seven thousand delegates have signified their intention of being present, so that at the time of the meeting there will probably be at least ten thousand medical men gathered in the Imperial city of Russia. As the city contains hotel accommodations for only eleven hundred persons, room will

be made in private houses and in hospital wards. The Russian Government has appropriated $50,000 to entertain their medical guests and gives them free transportation over their railroads.

A MATHEMATICAL PROBLEM.

WE learn from an exchange that Dr. J. M. Price, of Philadelphia, stands at the head; in number and success of his abdominal operations, of the noted surgeons, who have won reputations in that field of their profession, having performed over 4,000 abdominal sections. It is presumed that in most of these operations one or both ovaries were removed, and not unusually the womb and the appendages also. Now, the problem is, if one surgeon now in middle age has removed 4,000 ovaries, how many have been removed by surgeons old and young in the civilized world, for the taking out of ovaries is most emphatically a civilized procedure, and looked upon as one of the great triumphs of modern surgery. After an approximate estimate has been made it might be well to still further inquire how many of these ovaries might have been saved and restored to health by even moderate skill in the slower application of therapeutic methods.

An incident occurred in this city recently where both ovaries were removed by a distinguished gynæcologist. As they lay upon the table one of the assistants said: "These ovaries do not seem to be diseased." "No," was the reply, "but they may just as well come out as it will only prevent her having children." It requires more skill to know when to cut than how to cut. The latter requires anatomical knowledge and mechanical dexterity, the former an intimate knowledge of pathological conditions and the action of remedial agents.

In this connection one word might be said in reference to the treatment of the nose and throat. The knife may, of course, often be used with benefit in clipping the palate or excising the tonsils, and the saw in removing obstructions in the nasal passages, but it is a question if chronic catarrh, in which the membrane is thickened or ulcerated, may not be treated with better results in the end with natural remedies and local applications than with the cautery, which destroys the tissues so that the original functions can never be restored. The moral of all this is that while the good physician may not always be a good surgeon through lack of mechanical dexterity, the good surgeon should always be a good physician, thoroughly versed not only in pathological conditions and the causes which lead to them, but in chemical combinations and the action of therapeutic agents in health and disease.

THE COLLINS HOMOEOPATHIC STATE INSANE HOSPITAL.

ON the election of Dr. George Allen as the Superintendent of this new institution the management were congratulated as having secured as the head of their institution a man of especial fitness, both as an alienist and as an executive officer. In his two years' service as an alienist in the Ward's Island Hospital, one of the largest of the great city hospitals, with an insane ward of 150 patients, and later in several years' service as first assistant in the Middletown State Hospital, Dr. Allen had shown an ability and an energy which promised well for his future success. The new Superintendent had hardly got into the traces of official work when differences arose between himself and the trustees, in reference to the staff of the institution and general management, of so grave a character as to lead to his dismissal.

Dr. Allen denied the legality of the local board in dismissing him, and maintains his position as acting Superintendent. In this decision he is supported by the Commissioners of Lunacy and most of the superintendents of the State Hospitals. The legality of the action of the trustees will be tested by the courts. The charter of the hospital says the Superintendent may be removed for cause. Dr. Allen and the Lunacy Commissioners contend that being a civil service officer of the State he cannot be removed without formal charges being made against him, which he is entitled to meet by counsel. Until the legal decision is reached by the courts Dr. Allen will remain as acting Superintendent.

TREATMENT OF CARCINOMA OF THE UTERUS AND OVARIAN DISEASES WITHOUT OPERATION.

IN the July issue of the *Scottish Medical and Surgical Journal* Dr. Robert Bell, of Glasgow, narrates several cases where epithelioma of the cervix has completely disappeared under local treatment, the object of which has been to promote a healthier condition of the organ, while this has been supplemented by the administration of thyroid extract. The local treatment consists in removing by the curette all the unhealthy tissue that can be reached, and the application afterward at frequent intervals of tampon, saturated with a 10 per cent. solution of icthyol in glycerine. In the majority of cases, where the disease

is in its initial stage, and has not involved any other tissue, this treatment is successful, and even in some cases where the disease had actually proceeded beyond the sphere of surgical interference complete recovery has taken place. He believes that when surgical interference can be of avail, this therapeutic method of treatment is almost certain of success, so that the ultimate condition of the patient is very much more satisfactory than if hysterectomy had been performed, while all the risk and anxiety of the operation have been avoided.

The treatment of ovarian and tubal disease, as also that of fibroma of the uterus, by means of parotid and mammary glands, has been suggested, he says, by the physiological relationship existing between these organs. The effect of parotid glands upon a diseased ovary is so pronounced, especially if the uterine affection is simultaneously treated, that it would be wrong, in his opinion, not to employ the remedy before resorting to operation. During the past two years, he has obtained most favorable results in over sixty cases of enlarged and painful ovaries, which would certainly at one time have warranted oöphorectomy. These women at the present moment are perfectly well and free from pain.

THE IODIDES IN HEART DISEASE.

SOME few years ago Dr. Clark, of London, wrote an exceedingly interesting and valuable monograph on the use of iodide of arsenic in certain forms of heart disease. More recently Dr. Vierordt, of Heidelberg, has reported the effects of other iodides in his practice, notably iodide of sodium and iodide of potassium. The cases treated were in part subject to arteriosclerosis, excluding those of pronounced cardiac weakness and albuminuria. From fifteen to thirty grains of iodide of soda a day was given in divided doses in milk or Seidlitz water. This after a time was followed by iodide of potassium, in the form of Shadow's effervescent salt, one or the other being given for nine months and later at longer intervals. The effect on the arteriosclerosis was especially marked in cases accompanied by cardiac distress, especially angina pectoris. It seemed to be but of little consequence whether the arteriosclerosis was of syphilitic origin or not. Vierordt does not pretend to define the *modus operandi* of the iodides, but thinks the morbid process in the blood vessels is brought to a standstill so that the high-toned blood pressure is gradually lowered and therefore the normal circulating function re-established for a time. While this treatment seems to check vascular changes, there is no evidence that it restores the tissues to their normal condition.

SPINAL IRRITATION.—Dr. Patrick, in *Medicine*, claims that this term should be banished from medical nomenclatures. He says the pain and tenderness along the spine which are commonly known by this name have nothing to do with the spinal cord or its membranes, or with the spinal column. In so-called spinal irritation, Dr. Patrick says there are tender points along the spine. If these change their location every five or ten minutes such shifting demonstrates that the disease, so far as the tender parts are concerned, is entirely functional and situated not lower than the cerebral cortex. Upon the correct differentiation between positive spinal irritation and functional disturbance, the seat of which is probably in the cerebral cortex, the success of the treatment in a great measure depends.

A STORY comes to us from Philadelphia of a case where thirty-six lizards were removed from a human stomach. Some of them were between two and three inches long, and one, which was alive, lived for twenty minutes. The man had been ill for some time and the lizards were thrown up after taking an emetic. It is supposed that the spawn was contained in the well water drank and the eggs hatched in the stomach. A different kind of lizard has been found in Wyoming and is now on the way to enrich the Museum of Natural History in this city. This lizard or dinosaur is a relic of the mesozoic age and lived, it is estimated, 2,500,000 years ago and is fifty feet long. A large number of these relics of the mesozoic age was found, of all sizes and of different forms.

Some looked much like birds, and it took scientists of great ability to make the differentiations. Other dinosaurs were very large, some being fifty or sixty feet in length. The largest lizards were herbivorous, while the smaller generally were carnivorous. They walked on all fours and their locomotion was slow.

The large dinosaurs could stand on their hind feet and reach up into trees for food. They had coats of mail and resembled in some respects alligators and crocodiles. These immense lizards were the predominant type of land animals in the Jurassic time and existed in great numbers. Their brain growth has been interesting to scientists. It has been found that their brains, in proportion to their size, are much smaller than in alligators and crocodiles.

It is expected that the excavations in Wyoming

will result in equipping the American Museum of Natural History with a magnificent collection of these extinct lizards. The specimens are gathered for the department of vertebrate fossils, of which Prof. Henry F. Osborn is the curator.

The museum has also two expeditions working in Kansas and Nebraska. In the former State the scientists are securing fossils of pterosaurs or pterodactyls. These were flying reptiles. Some of them had a stretch of wing of from twenty to thirty feet. In Nebraska there is an expedition for fossils of camels and elephants. According to the reports which have reached this city these two expeditions have also been very successful.

BUTTERMILK, which at one time was thought only fit for the hogs, as its virtues are better known is eagerly sought after as not only a healthy but a very pleasant drink, especially by the dyspeptic and old people. Down in the vicinity of Wall street the other day we noticed a stand on the corner of Liberty street, around which several old men, most of them millionaires, were gathered, drinking great glasses of rich, iced buttermilk. This, one of them said, was his lunch, and he often came downtown to get his drink. The lactic acid dissolves the phosphate of lime and keeps the blood in good condition, thereby preventing or retarding that ossification of tendons and arteries so common in old people.

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LIPPINCOTT'S MEDICAL DICTIONARY. A Complete Vocabulary of the Terms Used in Medicine and the Allied Sciences, with Their Pronunciation, Etymology and Signification, Including Much Collateral Information of a Descriptive and Encyclopædic Character. Prepared on the Basis of Thomas's Complete Medical Dictionary. By Ryland W. Greene, A. B. With the Editorial Collaboration of John Ashhurst, Jr., M.D., LL.D., Barton Professor of Surgery and Professor of Clinical Surgery in the University of Pennsylvania; George A. Piersol, M.D., Professor of Anatomy in the University of Pennsylvania, and Joseph P. Remington, Ph.M., F. C. S., Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy. London and Philadelphia: J. B. Lippincott Co., 1897. Pp. xi—1154.

This work has been prepared with a great deal of care, and notwithstanding it has some blemishes—and what work, especially a dictionary, has not?—yet its good qualities are so marked that the slight blemishes are easily overlooked and will be hardly noticed.

SCHAFER'S COURSE OF PRACTICAL HISTOLOGY. By Edward Albert Schafer, LL. D., F. R. S. Jodrell, Professor of Physiology in University College, London. Second edition, 12mo, 307 pages, 59 engravings. Cloth, $2 25. Philadelphia and New York: Lea Brothers & Co., 1897.

The same author's Essentials of Histology, now in its fourth edition, is one of the more largely used text-books in this country. The purpose of the present volume is to afford students of practical histology, a manual containing plain and intelligible directions for the suitable preparation of the animal tissues. The union of hand and brain is the key to successful education in any subject where objective methods can be applied. Knowledge obtained in this manner has the advantage of clearness and permanence, and Prof. Schafer has in this volume furnished just such a guide to imparting a command of a very important foundation of medicine.

SYSTEM OF DISEASES OF THE EYE STRAIN IN HEALTH AND DISEASE, WITH SPECIAL REFERENCE TO THE AMELIORATION OR CURE OF CHRONIC NERVOUS DERANGEMENT WITHOUT THE USE OF DRUGS. By Ambrose M. Ranney, A. M., M. D., late Professor of the Anatomy of the Nervous System in the New York Post-Graduate Medical School and Hospital, illustrated with thirty-eight engravings. The F. A. Davis Publishing Co., 1897. Price, $2.

Dr. Ranney's well-known ability in his specialty has enabled him to prepare a very timely and much needed work. The attention of physicians and educators have been recently specially called to subjects here treated with marked ability.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

CONGRESS OF SCIENTIFIC SOCIETIES.

Section of Medical Sciences and Hygiene.—The influence of the accumulation of nicotine in the organism upon the action of drugs administered internally, and upon the cicatrization of wounds, M. Decroix concludes that, all other things being equal, the habitual use of tobacco seems to produce a modification of the therapeutic effects of drugs, and also retards the cure of wounds. A large number of facts seems to leave no doubt upon this subject. Some time previously, M. Bertheraud, army-surgeon-in-chief, established the fact that in the treatment of syphilis especially, soldiers who were great smokers were not cured as quickly by the same treatment as those who did not smoke.

Bacteriological Researches in Ozena.—MM. Auche and Brindel, of Bordeaux, report twenty-four cases, of whom four were affected with old and apparently cured atrophic coryza; the remaining twenty were cases of atrophic coryza in process of evolution. In these last the capsulated diplo-bacillus of Loewenberg was found, the pseudo diphtheritic bacillus of Belfanti and Vedora occurred eighteen times, the small bacillus of Pesant Gradenigo three times, the staphylococcus twelve times, and the streptococcus four times. In fourteen cases of ozena, more or less pronounced, the diplo-bacillus was found always in two pseudo-diphtheritic bacillus was absent. The small bacillus existed in three, and was never seen in coryza without ozena. In four patients affected with old and much improved atrophic coryza, we have never seen the diplo-bacillus of Loewenberg to exist.

Treatment of Suppurative Mastoid Complications of Otitis of the Middle Ear, Acute or Chronic, by Irrigation Through the Eustachian Tube.—M. Grossard says: When a patient affected with acute otitis is threatened with mastoiditis, is it necessary without delay to trepan the apophysis? No! The physician has at his disposal a process which not only allows him to gain time, but is sufficient to stop the inflammatory action. It consists in irrigating the cavity by the tube, and is performed as follows: Itard's sound, previously sterilized is introduced into the tube as in ordinary catheterism, only instead of injecting air, boiled water sterilized, or a solution of phenosalyl $\frac{1}{10}$ may be used; take care that the tympanum is widely opened previously. The operation is not painful, and after the lapse of a few moments there will be an escape of a dirty fluid, more or less abundant, and when the returning fluid becomes pure the operation is terminated.

Acute Inflammation of the Lingual Tonsil.—M. Bar, of Nice: The lingual tonsil is a pathological anomaly of the lingual follicles of Waldeyer's lymphoid ring, produced by repeated inflammations of the follicles. Of no special gravity of themselves, the inflammations may become the point of departure of a serious neurasthenic condition. The abortive treatment consists of the local application of the Nit argent 1-15, chloride of zinc 1-50, pyoctanine 1-10, and salol in dose of 1 to 2 grammes daily; also gargles of antiseptic pharyngeal irrigation, compress of Priessmitz, etc. On the termination of the inflammatory period, destroy the hypertrophied gland with the galvano-cautery.

Epistaxis Due to Odors.—M. Joal reported three instances of nasal hemorrhage from an olfactory impression. These are of the vaso-motor variety, and are consecutive upon an excessive turgescence of the nasal erectile tissue which results in rupture of the capillaries. The reflex action of the trifacial is secondary to a primary reflex originating in the olfactory zone.

Unilateral Laryngoplegia from Traumatic Lesion of the Spinal Cord.—M. Molinié, of Marseilles, said these laryngeal paralyses are extremely rare. I observed one case in a man of thirty years, who attempting suicide, received a cut from a knife in the region of the nucha on the left side. The blade penetrated below the inferior border of the occiput to the depth of five centim. There was subsequent paralysis of the left vocal chord, of the constrictor of the pharynx and a hemiplegia of the arch of the palate of the same side.

Treatment of Ozena by Alkaline Medication.—M. Mouret, of Montpellier: The principal lesion in ozena seems to be atrophic trouble which vitiates the glandular secretion. Alkaline mineral waters render valuable service, and the bicarbonate of soda by irrigation or as a drink. The alkalines in general are excitants of the glandular function.

Auricular Affections of Gouty Origin.—M. Gellé: Besides the well-known affections of the external ear—eczema and tophus—the middle ear is subject to attacks, acute or chronic, suppurative or not. The ear of the gouty or predisposed to gout may be affected from early infancy, and in such a case there is a particularly tenacious otorrhœa. Gouty otitis of the middle ear may become suppurative from partial rhino-pharyngeal infection, or simple catarrhal otitis. In the latter the affection is generally circumscribed, but later on there may ensue sclerosis with calcareous infiltration of the tympanum and thickening of the malleus catarrhal otitis very often announces an imminent attack of gout, which proceeds in due order and arrests the otic complication, and the vertigo, and other head symptoms cease on the appearance of the auricular flux or an attack of hepatic colic. The so-called gouty vertigo is often nothing more than a misinterpreted vertigo "ab aure læsa" from a diseased ear. If the ear is examined carefully, there are nearly always otic lesions more than sufficient to account for the vertigo, aural sounds, etc.

FRENCH OPHTHALMOLOGICAL SOCIETY.

Primitive Tuberculosis of the Eyelid and the Caruncle. Followed by Pulmonary Tuberculosis.—M. Aumagnac, of Bordeaux, reported a case of ulceration of the upper eyelid that had divided it through its whole thickness. The ulcer was fungous, and in the absence of tubercular bacilli, it was regarded as an epithelial neoplasm. After two months' use of the chlor. of potasi and nitrate of silver, local cure was effected, but subsequently there occurred an infection of the caruncle and nasal canal. Soon laryngitis supervened and the patient succumbed to acute tuberculosis.

Parenchymatous Keratitis of Uterine Origin.—M. Koenig reported an observation of a young woman who, for a year and a half, had at each menstrual period, monocular visual trouble, characterized by a parenchymatous infiltration of the cornea analogous to interstitial keratitis. This might be from two sources, an infection from the genital organs or a diathesis developed by menstrual troubles. In this case the infection was of genital origin, and the treatment consisted of antiseptic injections of the vaginal cavity. This form of keratitis is distinguished from the interstitial by an inflammatory reaction which does not exist in the other, and the evolution of the latter is generally slow and gradual.

Corneal Complications of Blepharitis.—M. Terson: The ciliary border may become full of staphylococci, and upon inoculation by MM. Panas and Terson, determined corneal abscess. The infectious properties of the ciliary border may be as great at the time of operations as during the the evolution or pustular conjunctivitis or herpetic keratitis. Abscess of the cornea may also be produced by an inflamed ciliary border. It may occur in the course of a blepharitis and be located in the lower portion of the cornea. Hence the necessity for always disinfecting the ciliary border, whether it be normal or inflamed, not only before operating, but during the course of keratitis or conjunctivitis.

Partial Sub-Choroidal Hemorrhage from Operation for Cataract.—Post-operative choroidal hemorrhage usually determines total destruction of the choroid, and the expulsion of the vitreous humor; ordinarily it is irremediable. In case of profuse hemorrhage, it is better to use compressive bandaging than to compel immediate enucleation.

Sarcoma of the Orbit.—M. Teillais, of Nantes, observed three sarcomatous tumors in a young man of eighteen years, a child of six, and a woman of forty years. They were made up of fusiform elements, and in the woman the increase was slow. At the beginning there were symptoms of Basedow's disease, but in the other two cases relapse occurred, in one after fifteen days, and in the other after six months.

Treatment of Purulent Ophthalmia with Concentrated Solutions of the Permanganate of Potass.—For the treatment of purulent ophthalmia in newly-born children and in the adult, M. Vian, of Toulon, uses a solution of one-tenth locally applied, twice daily. Catarrhs and ophthalmiæ are treated in the same way, and to it are added warm cataplasm and borated washes. The nitrate of silver, M. Vian considers very harmful. The permanganate does not affect the cornea, is not painful, and does no injury when there are false membranes.

Rupture of the Choroid—M. Fage, of Amiens, explained the mechanism of rupture of the choroid following contusions of the globe, by sudden distension of the envelopes from tension of the globe, by counter-stroke and subchoroidal hemorrhage. In his experiments upon animals, he could only obtain this result by forcible pressure of the choroid backwards. It is certain that the intimate adhesion of the choroid around the optic foramen and the sclerotic favored the rupture, and it is conceivable that violent contraction of the recti-muscles forces the globe backwards against the optic nerve, and produces a similar effect.

Opthalmological Therapeutic Experiments with the Extract of Bovine Ciliary Body.—M. Dos reported an observation of a grave, sympathetic ophthalmia which had been much improved by injections of an extract prepared from the ciliary body of an ox. He based his theory upon the following: The normal aqueous humor does not contain albumin, but does contain it when in a morbid condition. This indicates that in the ciliary body there exists normally a substance capable of retaining albumin, which becomes defective in certain affections of the eye, and it is this which he proposes to restore by taking it from the eyes of animals, and introducing it into diseased eyes.

Ocular Manifestations in Epilepsy.—M. De Gouvea observed in a great number of epileptics visual troubles which he referred to spasm of the arteries of the retina. In idiopathic epilepsy, the ocular muscular apparatus is often the seat of spasmodic attacks which affect, in the order of their frequency, the ciliary muscle, the muscular coats of the retinal arteries, and the extrinsic muscles of the eye.

Oxygenated Water in Ocular Therapeutics.—M. Vacher has employed oxygenated water without inconvenience for the cure of certain ocular diseases. He says: For eleven years I have used it in a great number of affections of the eye, ulcerous blepharitis, purulent or granular conjunctivitis, etc., in order to insure the asepsis of the ciliary surfaces, both by frictions and sub-palpebral irrigations. In the proportion of 6/100 I have utilized it for injecting the lachrymal passages. Without attacking the corneal epithelium it reveals the ulcerations by the white patches upon the denuded surface. Moreover, it cleanses the

atonic ulcers of hypopyon. When injected into the anterior chamber it arrests iridian hemorrhage. I have seen it cure an irido-choroiditis and an infected corneal wound. After the extraction of cataract, if there should be an infection of the iris, oxygenated water, in five volumes, when introduced into the anterior chamber, will arrest the suppuration.

Washing the Posterior Chamber After Operation for Cataract by Aspiration and Injection Simultaneously.—M. Chibert uses a syringe for aspiration and injection at the same time, and finds great advantages by this method for extracting the abundant masses of cortical layers in soft cataracts or those incompletely matured. In addition he injects borated water, to which is added the 1/20000 of the cyan. of mercury.

Corneal Alterations of the Eye in Diphtheria, and the Local Treatment by Serum.—M. Coppez, of Brussels, said: Necrosis of the cornea in ocular diphtheria is not produced by strangulation, but by the action of the diphtheritic toxine, which is infiltrated into the cornea by the lymphatic vessels, when there is ulceration, or by absorption through the epithelium. The anti-diphtheritic serum acts locally upon the conjunctiva and cornea when one eye is affected and the other threatened.

ACADEMY OF SCIENCES.

Medical Practice Five Thousand Years Ago.—Mr. Lannelongue saw during one of his recent voyages to Cairo, a mummy of the Hamel, of the XI dynasty. She was well preserved, and there were on the belly tattooings and scarifications in regular form. On inquiry among the natives, he learned that the practice of tattooing and scarifications still continued. They practice them for neuralgia and inflammatory conditions of the abdomen, from which M. Lannelongue supposed that the priestess Hamel died of peritonitis. This might be called a retrospective diagnosis. He also reported from his voyage the history of an operation which few modern surgeons have thought should be practiced, and which has very much astonished many of the chaste veterans vieillards of the Academy. The operation is preventive clitoridectomy. The fathers and mothers did it simply to remove an organ, the necessity for the existence of which they doubted.

ACADEMY OF MEDICINE.

The Disease of Reichmann.—At the preceding session M. Hayem declared that the patients affected with Reichmann's disease—gastrosuccorrhœa—could only be cured by surgical treatment. M. Albert Robin declared to-day that, on the contrary, medical treatment could relieve and even cure persons affected with this disease. In support of this opinion, he cited a number of observations in which the patients treated by M. Hayem, and subsequently operated on by a surgeon, had been attacked with spasm or contraction of the pylorus without lesion. According to M. Hayem, stenoses are always accompanied by lesions. M. Hayem responded that not one of the cases cited by M. Robin was affected with Reichmann's disease, and that among those whom he had treated, and of whom M. Robin had spoken, one was hysterical and did not present in any way whatever a symptom of Reichmann's disease. M. Hayem added that it was not scientific to bring forward observations of cases that had been treated but not cured by his opponent. M. Robin replied that he was very familiar with the disease of Reichmann as it had been described by authors. M. Hayem added that he had met the disease only twice in a long career, it is extremely rare, and the frequency with which M. Robin had encountered it was somewhat astonishing.

SURGICAL SOCIETY.

Osteomyelitis of the Lower Jaw.—M. Moty presented a case of the above disease which formed a large tumor in the parotid region. Notwithstanding repeated incisions, always unsuccessful, and one of which reached and opened the dental canal, the condition of the patient was not improved. The fourth operation consisted in the removal of the ascending ramus of the maxilla in the usual way, the special point of the operation being the section, or rather, the liberation of the tendon of the crotaphyte. Examination proved that the infected point was the inferior dental canal, and this is the characteristic fact to be considered. Trepanning the bone in the first instance would have been the method of choice in this case. M. Routier saw a similar case in a young pregnant woman, and a simple incision exposed an enormous sequestrum, which was detached of itself at the end of three months.

Syme's Operation.—M. Ollier, of Lyons, made an interesting communication upon Syme's operation, fifty cases of which were presented by the eminent Lyons surgeon. He was always careful to preserve intact the periosteum of the calcaneum, which gives a thick and solid flap. Syme's operation, if not modified, endangers the wounding of the posterior tibial artery.

MEDICAL SOCIETY OF THE HOSPITALS.

Treatment of Eczema by Picric Acid.—M. Gaucher: In consideration of the elective action of picric acid upon the epithelial cells, and also the efficacy of this substance in superficial burns, M. Gaucher thought to utilize it in the treatment of acute eczema, and of all its stages. This therapeutic method has already been successfully employed by Dr. McLennan, of Glasgow. For burns, use an aqueous solution of acid 1/100, and apply to the diseased surface, and afterwards a compress saturated with same, leaving it in place two days.

At the end of this time the inflammation, redness of the skin and discharge have much diminished, or even disappeared, and desquamation begins. This mode of treatment applies only to vesicular eczema, and the red and moist form, and only in the acute form. It is insufficient to modify the thickening and induration of the skin in chronic lichenoid eczema. It may be employed with the same advantage in other superficial and humid inflammations of the skin, especially in all forms of pemphigus.

M. Nelaton presented a patient cured of suppuration of the frontal sinus by curettage, and M. Albarran another cured of renal fistula by permanent ureteral catheterism. He exhibited a syringe to be used especially for the aspiration of pus contained in the ureters, which had given him the best results.

Movable Kidney in Children.—M. Comby had in the space of a few months seen six cases of movable kidney in children of every age, from birth to fourteen years; the two youngest had not passed three months, and in them the renal ectopy was revealed by autopsy. The existence of mobility of the right kidney was proved in the first four children at five, thirteen and fourteen years. They were dyspeptic for a long time, caused by dilatation of the stomach, engorgement of the liver, more or less general relaxation and ptosis of the abdominal viscera, with the big belly of over-feeding, which precedes atonic dyspep ia of second infancy, of adolescence, and of adult age. To these cases one might ascribe the pernicious influence of the floating kidney, for in those of thirty-three days, and three months, heredo-syphilitic, in which autopsy discovered two floating kidneys, the congenital and intra-uterine origin of the malady must be admitted. Congenitality of the movable kidney has been sustained by Litten, Gutterbock, Ewald, Albarran, and my own observations seem to corroborate it. This does not exclude the effects of traumatic causes. The kidney may be movable congenitally, and traumatic causes would only exaggerate and make it more evident. M. Mathieu: According to my statistics, movable kidney is very rare in infancy, but especially frequent after twenty-five years. M. Guinon: I have just seen in two young girls, one of movable kidney, and of ectopia, depressed. But they both illustrated, in many respects, the conditions in which we meet this trouble in the adult—neurasthenia, the use of the corset, etc.

Muscular Rheumatism of the Loins, Abdomen, Pharynx of Blennorrhagic Origin.—M. Jacquet reported a new case of blenno-rheumatism, which occurred in a young man of nineteen years, and who, a month after contracting the blennorrhagia, entered the hospital with great abdominal pains, and most intense in the hypogastrium, including also the lumbar region, and the costal muscular attachments. They gradually subsided, but deglutition became painful, and also the movements of the neck, until finally

all disappeared. M. Jacquet believed all the symptoms to be of blennorrhagic origin. M. Rendu, recalling the action of the salicylate of soda in muscular rheumatism, asked if the nervous system was not more affected than the muscular.

M. Neuneman, of Louram, believes that the cephalo-rachidian fluid is the true vehicle for the transmission of toxines and microbes in many auto-infections, also in nicotine poisoning, alcoholic, and in migratory ophthalmia. Another form of sympathetic ophthalmia, which locates itself in the anterior segment of the eye, is due to the intervention of the nervous system. Here the aqueous humor is the fluid of culture, while in another form it is the cephalo-rachidian. M. Parinaud said: I have remarked that when a woman brings into the world a child affected with interstitial keratitis, her anterior pregnancies have often terminated by abortion, while the children born ulteriorly live and thrive. This is probably the effect of syphilis which continues to be attenuated, but its action seems incontestable. I admit the existence of keratitis of rheumatic and of tubercular origin.

MEDICAL SOCIETY OF THE HOSPITALS.

Treatment of Tubercular Peritonitis with Camphorated Naphthol.—M. Du Cazal, Val de Grace, presented case of above. After an evacuating puncture, he injected eight grammes of camphorated naphthol into the peritoneal cavity. The patient was cured of the peritonitis, and there was an evident improvement of the tubercular lesions of the lungs. M. Debore recollected analogous results obtained by irrigation of the peritoneum.

Hereditary Hydrocephalus.—M. Marie presented two patients (adults) affected with hydrocephalus. One seemed to have acquired it in infancy, the other, a more interesting case, is a congenital hydrocephalic, and was born of parents who did not seem to be syphilitic; his intellectual powers were feeble. His brothers and sisters were not affected with the same trouble, but the elder of his two children had a large head like the father's. M. Marie insisted upon the extreme rarity of hereditary hydrocephalus, which must result from some arrest of development. M. Rendu called attention to the peculiar aspect of the patient's cranium. M. Jacquet had seen hydrocephalus developed in a heredo syphilitic. M. Chaslin was reserved as to the diagnosis of hydrocephalus; the volume of the cranium does not prove the increase of the cephalo-rachidian fluid.

Hereditary and Heredo-Syphilitic Hydrocephalus.—M. Marie, of the Medical Society of the Hospitals, has insisted upon the extreme rarity of hereditary hydrocephalus. This very rarity induces us to signalize the case of Pet, a patient in the children's hospital of Bicêtre, published in 1895, in a work on hydrocephalus. This work was presented to the Congress of La Rochelle. The observation of Pet surpasses in interest that of M. Marie's patient. In effect, the mother of the patient had a badly formed head, similar to that of her child; one of the brothers was clearly hydrocephalic, and a sister the same to a less degree. No syphilis on the father's side, but at least two generations of alcoholics and absinthe drinkers. The mother was not syphilitic, but hysterical, an uncle was a suicide, an aunt a lunatic, and a cousin hydrocephalic. The same memoir published twenty-two detailed observations of different degrees of hydrocephalus, of which nineteen were revealed by autopsy. Their simple examination demonstrates the rarity of heredo-syphilis in the infirm of this kind, and the exaggerated place which has been given—*a priori*—to syphilis in the etiology of hydrocephalic idiocy; moreover, in that of all other varieties of idiocy.

ACADEMY OF MEDICINE.

Incomplete Pyloric and Non-pyloric Stenoses.—M. Hayem demonstrated that the syndroma of Reichmann—permanent gastrosucorrhœa—even during the interval of digestive periods, and nearly always coinciding with enormous dilatation of the stomach, corresponds anatomically and constantly with a mechanical obstacle located near the pylorus. This obstable is either at the pylorus itself or the beginning of the duodenum. These two forms have their common characteristic symptoms, and their special symptoms. Incomplete pyloric or sub-pyloric stenoses are easily diagnosed, and depend upon the constant presence, ten or twelve hours after the last ingestion of food, of gastric liquid containing the débris of aliments. When the retained liquid is abundant and contains large particles, easily seen without the microscope, and consist of food swallowed several days before, the stenosis is located near the pylorus. On the contrary, when the residual liquid is small in quantity, and frequently colored green with bile, and holding in suspension alimentary particles so small as to require the microscope to detect them, then the diagnosis should be sub-pyloric stenosis. The etiological diagnosis is much more difficult, and the absence of free chlorhydric acid, and the excess of acidity, are a strong argument in favor of cancer.

The idea of a mechanical obstacle gives but little solution of the efficacy of medical treatment. The only palliatives are a very strict regimen, and frequent irrigation of the stomach. Sometimes a real spontaneous amelioration occurs; this is especially observed in case of ulcer. But generally the progressive debilitation renders surgical intervention unnecessary, and this should be done before the beginning of tubercular complications, which are always imminent. M. Hayem's personal observations incline to the selection of gastro-enterostomy as the form of surgical intervention.

M. Robin insisted upon the diagnostic importance between spasm of the pylorus, in which there should no operation and true stenosis, and the only differential sign is furnished by pathological chemistry. In spasm of the pylorus, the azote of the feçal matter, and of the urine, represents the totality if not more of the azote of the ingesta. In the case of true organic stenosis, it represents only about one half of alimentary azote; there is the same disproportion in the inorganic materials.

M. Hayem believed that the constant presence of a residual liquid in the morning in the stomach is a certain sign of stenosis, and he insisted upon the practical importance and the novelty of this proof.

A Case of Gordius in Man.—M. Blanchard cited a very rare fact of Gordius that was probably introduced by drinking water, and which after remaining about fifteen days in the digestive tube, was expelled by the mouth. This filiform worm was 29 centimetres long, and there are only six analogous cases in science, one accompanied with hysteriform phenomena, which disappeared after expulsion.

THERAPEUTIC SOCIETY.

Digitaline and Digitoxine.—M. Adrian: The question, to wit, if the German digitoxine is truly identical with the French digitaline, is one of the most important in pharmacology, for upon its solution depends the generalization of the employment of the active principle of digitalis. Despite the obscurity of the German works published since Nativelle's discovery, it is given out in the new work of Kiliani, that the pure, crystallized digitoxine presents all the characters of the crystallized digitaline of the French Codex, as they were defined five years ago by Arnaud. The only new point designated by Kiliani is that the digitoxine prepared by him is a veritable glucoside, which can resolve itself into two component parts, one of which is sugar. This character belongs also to digitaline, as demonstrated by the recent experiments of Houdas. This chemical fact is very important, for from the works of Franck, Masius and Cosin, accepted by the Therapeutic Society in 1895, digitaline would be shown to be less active than the German digitoxine, which would be contradictory of chemical analysis. J. A. C.

The *Medical Gazette* Publishing Co., of Cleveland, Ohio, announces a small volume soon to be issued, with the title "About Children." The author is Dr. Samuel W. Kelley, of the Cleveland College of Physicians and Surgeons. The book will contain six lectures, filled with information for nurses, medical practitioners, students, and all who have the care of children. Advance orders will be filled in September.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Silver Citrate in Gonorrhœa.—O. Werler reports in the *Medical Week* of October 24, 1896, that he has obtained excellent results with silver citrate in the treatment of a large number of cases of acute and chronic urethritis of gonorrhœal origin. In acute cases he employs a solution of 25 milligrams in 200 grams of distilled water, to be used as an injection four times daily with an ordinary urethral syringe. This mild solution is followed by one of increasing strength until 5 centigrams to 200 grams of water is reached.

Dr. Werler has found that the silver salt exerts a powerful gonocidal action, greater than that possessed by the silver nitrate, and is much less irritating to the mucous membrane of the urethra. Especially favorable action was noted in those cases in which the treatment was begun early, before the organisms had time to penetrate deeply into the epithelial surface.

Oxygen in Diabetes.—To a man sixty years of age *Ascoli il Policlinico* gave large quantities of oxygen each day for a little over three months. During this time the quantity of urine diminished, its specific gravity decreased, sugar was reduced to a small proportion, and in two months entirely disappeared; three months later the sugar had not reappeared, although the patient had gone back to a diet of starchy foods. He also gained materially in weight.

Iodothyrine in Myxedema and Goitre.—At a recent meet- of the Society of the Hospitals, of Paris, Dr. P. Marie presented, on behalf of Dr. Jolly and himself, the case of a woman fifty-four years of age and suffering for several years from myxedema, who was treated by the daily administration of three or four powders containing thirty centigrams each of iodothyrine, which is equivalent to one milligram of iodine in organic combination, or thirty centigrams of fresh thyroid gland. Although the patient presented rather severe cardiac dyspnœa and some albuminuria, there was rapid improvement and complete recovery was obtained within six weeks. In a case of goitre with dyspneic phenomena and tachycardia, marked improvement was also obtained by the use of iodothyrine.

Dr. A. C. Bernays, of St. Louis, has lately recorded what he describes as "one instance at least where a great therapeutic success was brought about by internal medication, unaided by any other treatment."

He says: "The patient, a lady nearly forty years of age, has had a goitre ever since her maturity. It was treated in Germany by Prof. H. Lassen with parenchymatous injections of alcohol. The enlargement seemed to get a little smaller after about thirty injections. The goitre never disappeared entirely, but at times was larger. She noticed a decided, very disfiguring and alarming increase of its size soon after returning to St. Louis, after spending last summer on the Pacific coast. I decided to try iodothyrine, the active principle of the thyroid gland of the sheep. I began by giving 0.5 gm. per day and increased to 1.0 gm. per day, which was continued for nearly two months. The patient is much gratified with the result, and says her neck is smaller than ever. This she accurately ascertained by a series of careful measurements of the circumference of the neck.

"I would add that, in my opinion, the future of internal therapy lies in the realm of organic chemistry, and in the near future probably in organo-therapy, as much as in sero-therapy."

Vinegar in Vomiting After Anæsthesia—Vinegar, in order to stop the vomiting after anæsthesia with chloroform, has been used by Dr. Lewin (*Bull. Med.*; *Med. and Surg. Rep.*) in 174 cases. In almost every case he obtained a good result. A piece of linen is soaked in vinegar, wrung out and placed under the apparatus directly on the face; the apparatus should not be taken off immediately in order to prevent the air from passing through the linen too early. The linen should be kept on the face for at least three hours. In case the linen becomes dry another piece should be applied. It is necessary to avoid the passage of the air under the linen.

Sir William Gull on Health.—The following is taken from some suggestive "notes and aphorisms" published in the biographical sketch of the great physician which is prefixed to the second volume of his writings issued by the New Sydenham Society:

"When one undertakes to show the way he should know something of the path.

"In therapeutics this has often not been so, but the most confident have generally been the most ignorant and dangerous guides. Nor is this criticism confined to unlearned men so called, but honored and acknowledged authorities have often been proved by the course of time to be as dangerous as the more ignorant and unlettered. What shall we do? Rest and be still. The workman who made the machine can repair it, all hindrances being removed. Study the hindrances, acquaint yourself with the causes which have led up to the disease. Don't guess at them, but know them through and through if you can, and if you do not know them, know that you do not and still inquire. 'Cannot' is a word for the idle, the indifferent, the self-satisfied, but it is not admissible in science."

Massage and Movements in Treatment of Fractures.—Davis (*Annals of Surgery; Dom Med. Monthly*) discusses these adjuncts to treatment in some varieties of fractures, and summarizes as follows: (1) Massage and passive movements are not used to their proper extent in the treatment of fractures. (2) Immobility of the fractured ends favors good union with little deformity. (3) There are some cases in which, owing either to peculiarities of the fracture or to impaired constitution of the individual, the tendency to callus formation is increased. Motion in these tends to form exuberant callus and causes deformity. (4) There are others in which bony union is unduly delayed; disturbance in these hinders union. (5) It is wise to wait till fractured parts are glued together, usually in eight or ten days, before attempting any except the lightest massage, and any extensive passive motion after that time should be used carefully but diligently. (6) Passive motion and massage when first attempted should be of the most gentle character, so as not to disturb the relations of the broken bones. (7) Any marked pain or inflammatory action following passive motion and massage is evidence of too great violence. (8) The limb should receive massage and manipulation at each inspection or change of dressing, often daily. (9) In some cases such massage as is possible should be administered without removing splints. (10) Persistent stiffness, particularly in fracture or injuries of the wrist, is often due to a rheumatoid affection locating itself in the injured region. Massage is valuable in the treatment of this. (11) Massage should be given to that part of a limb beyond the seat of fracture to preserve it in a normal condition. (12) Such dressing and methods of treatment should be adopted as will allow of the greatest use of massage and movements consistent with proper retention of fragments in position.

Torsion in Rectal Prolapse.—This procedure is based on that proposed by Gersung for urethrocele in women, and Vreden (*Gaz. des Hôp., N. E. Med. Mthly*) has used it for rectal prolapse. He proceeds as follows: A circular incision is made around the anus half a centimeter outside of the limit of pigmented skin. The rectum is separated from the surrounding tissues to the level of the levator ani. All prolapsed parts are replaced, twisted to an angle of 180° so that the external opening will permit of the passage of only a single finger, and fixed in this position by some silk sutures. Union takes place quickly and the cure is rapid and complete. The author explains the favorable results of this simple and almost bloodless operation by (1) the tension caused by twisting on all the layers of the rectal wall; (2) the even diminution in calibre of the lower portion of the rectum from the level of the levator

and by its spiral direction which prevents the recurrence of prolapse.

Sage in Hyperidrosis.—Infusion of sage is again recommended (*Med. Week*) for the treatment of hyperidrosis in tuberculous subjects as well as those suffering from leukemia, rheumatic polyarthritis and typhoid fever; in thirty-eight cases where it was tried there were only two failures. Steep forty-five grains of sage leaves in half a pint of water, and let the patient take a cupful in the morning, one during the course of the day, and still another before retiring at night, or the tincture of the leaves may be given in twenty-drop doses in the morning and from twenty to forty drops at night. *Salvia officinalis* has a proper place in the front rank of anti-sudorific remedies.

RETROSPECTIVE DIETETICS.

Diet in Dyspepsia.—Dr. A. L. Benedict in *Amer. Therapist* (*Med. Brief*) says: It is the business of the physician not to reduce the diet to the level of gastric capability, but to elevate the gastric function to the requirements of normal food. The near-sighted patient pays the oculist for fitting proper lenses, not for the advice to get near enough to objects to see them clearly, and the patient with dyspepsia is cheated if the physician endeavors only to advise the use of food which the stomach can digest in its weakened state. Diet in dyspepsia should be limited only temporarily or to a slight degree. It is proper enough to forbid such beverages as tea and coffee, which are positively, though mildly, toxic, and such achievements of culinary art as cakes, pastry, and heavy vegetables, which scarcely deserve the name of food, but almost all patients need some warm beverage, fruit, sugar, a variety of meats, breadstuffs, and concentrated vegetable nourishment.

Chocolate with milk, cocoa chips, or some of the cereal substitutes for coffee, may be allowed as beverages.

As to fruits, a good general rule is to forbid the patient to swallow anything of the nature of skin, core or seed—with the possible exception of grapes, which are not palatable if the outer sweet coating is penetrated—but to allow a moderate quantity of the pulp or juice of any fruit desired, after meals.

There is one common fruit, namely the banana, which must be considered by itself. It is a large mass of raw starch, containing some su ar and often an appreciable dose of nitrite of amyl. Physiologically speaking, it is rather a vegetable than a fruit; it is highly nutritious, but is not digested till the intestine is reached. Bearing these facts in mind, its indications and contra-indications can readily be determined, but the physician should remember in all cases in which the subject of fruit is discussed with the patient to except this one from the general category, and to explain that it is practically the same as a sweet potato.

Fruit should usually be freely allowed in conditions of constipation, and the existence of frequent cases of a typical scurvy must not be forgotten. The general malaise, the dry and scaly skin, the aggravated indigestion of dyspeptics who have been too rigidly dieted, are often, in the writer's opinion, scorbutic manifestations, and the same disease may certainly make itself apparent to a shrewd observer in artifically reared infants. Thus, along with the infant's or the invalid's diet, when this is of a limited nature, there should be administered at least a little orange juice or some similar anti-scorbutic.

Sugar, or good candy, is essentially carbohydrate food in its most concentrated form. These foods do harm, usually because they are treated as offenders, and are taken only after an abnormal appetite for them has been developed by too long abstinence. They should not be taken till the appetite for heartier foods has been satisfied, and it must be remembered that the craving for saccarine articles varies greatly with different individuals, and probably depends on individual differences in digestive chemistry, some digesting starches readily, others requiring sugars, which conform more closely to the constitution of the digested molecule of carbohydrate food. The purest candy is that made at home, by boiling down a solution of cane sugar, or by working confectioner's sugar into a paste and letting it harden. Various flavors, chocolate coatings, etc., may be added according to the taste of the patient. In patients with severe dyspepsia, due to dilation of the stomach, the writer has used a diet of pancreas sandwiches and sugar candy with much success.

In the selection of meats we naturally turn first to beef, but idiosyncrasies must be respected. Some persons relish lamb, others poultry, a few even pork, better than beef. In conditions of subacidity—the common cause or result of almost all cases of dyspepsia, whether organic or functional—there is at least a theoretical indication for sodium chlorid and some antiseptic, which may be fulfilled by giving salted and smoked meats. Ham, crisp—not soggy—salt pork, raw salt codfish, perhaps slightly toasted, halibut, etc., may be proper food, though not so quickly digested as fresh meats.

It is wise, whenever the patient is well enough to have his impressions and experiences considered, to ask him as to likes and dislikes, to be guided by his appetites and by his antipathies, to explain what foods he may take and why he may not take others, yet always to leave as wide a choice as possible and, even if the staple must remain the same, to vary the flavor from one meal to the next.

Alimentation in Nervous Disorders.—In his recently published work on "Functional Disorders of the Nervous System in Women" (*Charlotte Med. Journal*) Dr. T. J. McGillicuddy emphasizes the value of beef in the diet of neurotic patients. His remarks on this head are as follows: "Of especial value are the proteid or tissue building foods, and the one which stands at the head of the list, because of its utility in these cases is beef. It is difficult to show the importance of the selection of a correct amount of the different classes of food. If a certain class is taken in excess there is imperfect assimilation, and disease slowly but surely results. I have known fatal diabetes to result from excessive indulgence in raisins. Oatmeal mush, fermenting in the intestines, is a common factor in the production of nephritis. A vegetable diet contains an injurious amount of the carbohydrates and too little of the proteid element, which in this combination is difficult of digestion. That a meat diet with a moderate proportion of carbohydrates is the best food for neurotics has been frequently demonstrated clinically. Milk has not so great a food value as meat because of the sugar it contains, its lack of reparative material not 4 per cent. of proteids, and the great danger of its being impure. In view of the repugnance to a meat diet which sometimes exists in neurotic persons, some authors have recommended the addition of somatose, which is a concentrated preparation of the nutritive elements of meat in the form of albumoses. This product does not tax the digestive organs, and being practically tasteless and odorless and soluble in all ordinary fluids, it can be administered in a variety of ways to suit the palate of the most fastidious patient. Owing to the ease and completeness with which somatose is digested and assimilated and its stimulating effect upon the appetite a rapid gain in flesh and strength follows its administration with improvement of the nervous disturbances."

The Banana Cure.—Crichton Campbell, writing to the editor of the New York *Sun*, speaks as follows of the banana:

Bestow a boon on humanity and help to popularize the baked banana as an article of food for rich and poor, especially the poor. One cent will buy a good sized banana, which, when baked in its skin in an oven for fifteen or twenty minutes, until it is quite soft and bursts open, alone makes a full meal. I say, from personal experience, that three bananas, weighing one pound, are when baked, equal in nourishment to 26 pounds of bread.

Bananas should never be eaten raw. They are full of animal germs and very indigestible.

Baked bananas are also the ideal food for nervous persons and anæmics, also for brain workers. I learned their great power to sustain mental effort in India. I am as hard a brain worker as any person in New York, and I have subsisted for years entirely on baked bananas. When I see lean, poor-blooded persons I advise them to eat baked

bananas, and after adopting the diet they unfailingly build up and gain flesh.

This subject, which might not inappropriately be called the "Banana Cure," because many diseases can be cured by eating baked bananas, merits the closest investigation. The introduction of the potato was a great boon to the people, but I predict that the speading of the above facts over this country will prove of still greater benefit.

Milk Sterilization Not Injurious.—H. Lahmann (*Allg. Med. Cent. Ztg.*, 1897, LXV., 587; *Pediatrics*) does not concede that the sterilization of milk is the cause of some children failing to thrive on artificial food. The anæmia, rickets, scurvy, etc., is due not to the sterilization of the milk, but to the strict milk diet. Milk contains too small a quantity of iron, soda and lime, materials which are absolutely necessary for nutrition. The acute digestive disturbances formerly met with were not as dangerous as the present one-sided feeding. He uses milk which he orders boiled on a water-bath for ten to thirty minutes; but he adds to it his *vegetable milk*, and prescribes, after the twelfth week, fruit juice. The fruit juice is to be followed by half a bottle of the above mixture of vegetable and animal milk. He claims excellent results with this diet, to which he adds after the fifth month, a meal of vegetables. For fruit juice he prefers oranges, but the juices of other fresh fruits (cherries, strawberries, blackberries, plums, pears, apples,) may be given as substitutes. The boiling of home-made fruit juices is not necessary, others are to be quickly boiled and skimmed. Where fresh fruits cannot be obtained, the juice of baked fruits or home-made preserves may be used. Never should canned fruit, however, be employed. Where there is a tendency to constipation he orders these fruit juices to be given even earlier than the third month. Of vegetables the child receives once daily; at first a pap of spinach, later any vegetable may be given. A mixture of vegetables and rice, equal parts, boiled together and strained through a sieve, he considers preferable. Vegetables are better borne by infants than the usual toasted breads and paps, which, on account of the absence of nourishment in them, are to be condemned.

Avenin.—Recent experiments show (*Hardwick's Science Gossip*) that oats contain a substance, easily soluble in alcohol, which has an irritant action on the motor cells of the nervous system. It is a nitrogenous substance, apparently of an alkaloid character. The quantity present varies according to the quality of the grain and the soil on which it is grown. The darker varieties contain more than the light. Its composition is given as $C_{36}H_{31}NO_{16}$. The bruising and milling of the oats diminishes the quantity of this substance very rapidly, but it is quicker in its action.

Authorities declare that the increase of dyspepsia, especially among young persons, is largely attributed to the extensive use of oatmeal.

Diet in Chronic Nephritis.—Dr. J. E. Ferran, in *Arch. de la Policlinica* of Havana (*Am. Med. Surg. Bull.*)—In an article entitled "A Contribution to the Treatment of Chronic Nephritis," advises a vegetable and fish diet under the following circumstances:

1. When the quantity of urine passed exceeds 800 grams in the twenty-four hours.
2. When the urea and the density are somewhat augmented, or, at least, normal.
3. When there is increase of phosphates and phosphoric acid.
4. When the quantity of albumin is not exaggerated, nor subject to great variation. He desires to note that, in order to estimate the real quantity of albumin, he would recommend not to use Esbach's apparatus, owing to the fact that its reaction at the same time precipitates mucin, peptone, etc., which are causes of error.
5. When there is not great abundance of granular casts.
6. When the general condition is satisfactory.

How Bicyclers Should Eat.—The young—that is, the healthy young—can do almost anything, but there is another class, namely, the young who are not strong, and the middle-aged. These, when indulging in cycling, should remember, says the *Wheelman*, that riding the machine after a heavy meal is far worse than not riding one at all.

In the position assumed by most riders the stomach is to a greater or less degree pressed upon by the muscles belonging to it, gastric digestion, in consequence, being interfered with both on account of pressure from the position, and from the withdrawal of blood in proportion as increased activity of other functions demands its presence.

This combination of conditions renders riding of this type dangerous and hurtful exercise, which should be avoided by all. Plan your riding so as to have a fairly empty stomach during its continuance, rest for at least half an hour after the ride is finished, then eat slowly, and the result of your cycling will be health and comfort.

A quart of milk, three-quarters of a pound of moderately fat beef—sirloin steak, for instance—and five ounces of wheat flour, all contain about the same amount of nutritive material; but we pay different prices for them, and they have different values for nutriment. The milk comes nearest to being a perfect food. It contains all of the different kinds of nutritive materials that the body needs. Bread made from the wheat flour will support life. It contains all of the necessary ingredients for nourishment, but not in the proportions best adapted for ordinary use. A man might live on beef alone, but it would be a very one-sided and imperfect diet. But meat and bread together make the essentials of a healthful diet. Such are the facts of experience. The advancing science of later years explains them. This explanation takes into account, not simply quantities of meat and bread and milk and other materials which we eat, but also the nutritive ingredients or "nutrients" which they contain.

New Treatment of Burns.—Poggi and Vergely (*Med. Week*, 1896, IV., p. 96).—Dr. A. Poggi describes a treatment from which he has obtained excellent results in cases of burns of any degree. It consists in the use of potassium nitrate in the form of baths, compresses steeped in a saturated solution of this salt, or lotions.

Potassium nitrate acts in burns as a refrigerant, for, on dissolving in water, it determines a marked lowering of the temperature of the liquid, amounting to as much as 3.5° C. (6.3° Fahr.). If a burn on the hand or foot is plunged into a basin of water to which a few teaspoonfuls of potassium nitrate have been added, the pain experienced by the patient rapidly ceases. After a while, the water is heated up and the pain reappears, but it quickly subsides on the addition of another supply of potassium nitrate. This bath, when continued for two or three hours, frequently dispels the pain, and, it is said, may even prevent the production of phlyctenæ.

The application of compresses steeped in a saturated solution of potassium nitrate exerts the same refrigerant and antiphlogistic action, the pain being alleviated thereby, and cicatrization of the wound taking place without difficulty.

Prof. Vergely, of Bordeaux, has obtained very favorable results in the treatment of burns of the first and second degrees, by covering the affected parts with a thick layer of a paste prepared by mixing calcined magnesia with a certain quantity of water, leaving it dry on the skin. In proportion as dried fragments become detached, they are replaced by fresh paste. The pain ceases immediately after the application of the moist paste, it is stated; and under the protective layer of magnesia the wounds heal without leaving any trace of the cutaneous pigmentation which is so frequently observed after burns exposed to the air.

The Extinction of Leprosy.—A London correspondent, in a recent number of the *American Practitioner and News*, speaks hopefully of the treatment by the artificial induction of erysipelas on the affected parts, which was first suggested by Dr. W. Impey, medical superintendent of the leper settlement at Table Bay. There are 600 lepers there, and Dr. Impey found that when attacked by an inflammatory skin disease, such as erysipelas, measles or smallpox the part affected was invariably cured of lep-

rosy. He claims that the patient either recovers entirely from his leprosy or that life is prolonged indefinitely beyond the normal eight years. Dr. Impey believes that the early induction of erysipelas in leprous patients will cure the disease in individual cases and ultimately stamp it out.

The Influence of electricity upon the growth of plants has been the subject of many experiments, and various sensational statements have been made at different times with reference to it. We hear now and then of farmers who claim that by driving strong electric currents through the soil they can raise three or four crops while their old-fashioned neighbors obtain one, but most people possess enough common sense to be able to discount such reports at their proper value. There are, however, a number of considerations which suggest that electricity ought to prove itself capable of assisting the germination and growth of plants in much the same way as light; and by electricity is not meant the electric light, but currents caused to traverse the soil upon which plants are growing.

Chronic Gastritis.—Prof. H. T. Webster, M. D., of San Francisco, in a recent publication, discusses chronic gastritis and its treatment. After a careful *resume* of the etiology and pathology of the affection, and an enumeration of the symptoms attending it, he says, in speaking of the diagnosis:

"The use of the stomach-tube will afford the best means of diagnosis. If siphonage be practiced an hour or so after eating, hydrochloric acid will usually be absent, and lactic acid, associated with fatty acids, are present with a large quantity of mucus. If siphonage be practiced seven hours after eating, undigested food will be found still remaining in the stomach, while in cases of functional dyspepsia it will have disappeared. Malignant disease will be excluded by lack of cachexia, absence of perceptible tumor upon palpation, and by the character of the material vomited, coffee ground material soon appearing in cancer. In gastric ulcer, a diagnostic feature is frequent hematemesis."

He believes that if a proper diet be pursued and rational medicinal treatment be employed, almost every case of chronic gastritis will improve readily, unless it be complicated by gastric carcinoma, gastric ulcer, or hepatic, renal, or pulmonary disease. His treatment consists in lavage, disinfection and cleaning of the viscus with hydrozone. Lavage should be practiced every morning before eating, a small quantity of water (a pint) being used at first, which should be increased to two or three quarts as the treatment is carried on. The water should be warm (98.6°F.) and solutions containing Glauber's salt, asepsin or boracic acid are often useful. Regarding the use of hydrozone in this affection, he says:

"The introduction of hydrozone as a remedy in this condition was an innovation of remarkable value. A drachm of Marchand's hydrozone, added to four ounces of boiled water, and drunk while the stomach is empty, exerts a powerful influence in dissolving and removing the tenacious mucus, destroying microbic elements of fermentation and stimulating normal action in the diseased mucous surface. The best results follow its use in the morning before breakfast, the patient taking it while in bed, and remaining on the left side for ten minutes before rising. It may be taken oftener, but once a day may suffice, and it is advantageously used in this manner after the practice of lavage.

The hydrozone may at first produce acrid sensations in the stomach, but as the irritated gastric surface improves in tone under its influence this will pass away and sensitiveness in its action will subside. Where necessary the amount of hydrozone may be reduced until the stomach becomes more tolerant to it.

The important step in chronic gastric catarrh, as in catarrh of all other mucous cavities, is the cleansing of the part from the ropy mucus, which clogs the glandular organs, and serves as a nidus for the operation of agents of fermentation. Glycozone in teaspoonful doses, diluted with water, administered after meals, prevents fermentation of food and accelerates a cure.

If the treatment outlined above be properly carried out, the writer believes that little more is necessary, for with removal of morbid accumulations the gastric secretions will become normal in quantity and quality. Hydrochloric acid, administered internally, may in some cases do good, as also the bitter tonics, but their place is secondary to the use of the stomach-tube and the disinfection of the mucous membrane of the stomach with hydrozone.—*New England Monthly Magazine.*

A writer in the Boston *Medical and Surgical Journal* calls attention to the advantages of cork for street paving purposes. The material used is granulated cork mixed with mineral asphalt and other cohesive ingredients. It is then compressed into large blocks, and these blocks are embedded in tar and rest upon a concrete basis six inches thick. The advantages claimed for this sort of pavement are cleanliness, noiselessness, durability, elasticity and moderate cost. Unlike wood, being non-absorbent, it is not malodorous. It has been tested for several years in the cities and towns of Australia, and has given general satisfaction.

Here is an explanation of the recuperating effect of sleep, which it is important for all to consider: Nature takes the time, when one is lying down, to give the heart rest, and that organ consequently makes ten strokes less a minute than when one is in an upright posture. Multiply that by sixty minutes and it is 600 strokes. Therefore in eight hours spent in lying down the heart is saved nearly 5,000 strokes, and as the heart pumps six ounces of blood with each stroke, it lifts 30,000 ounces less of blood in a night of eight hours spent in bed than when one is an upright position. As the blood flows so much more slowly through the veins when one is lying down extra covering is needed to supply the body with the warmth usually furnished by circulation.

Mustard as a Deodorizer and Antiseptic.—Mustard is a very efficient deodorizer for the hands after working with anatomical material. And a well-known surgeon is recorded to have gone directly from a dissection to his operating room after such disinfection. It may be employed in any case when speedy and thorough disinfection of the hands is required. After *post-mortems*, removal of placental remains from the uterus, the opening of abscesses, the handling of gangrenous parts, etc. Not the least of its advantages is the fact that it is to be found in every household.

Early Pathognomonic Sign of Measles.—Dr. Henry Koplik describes (*Arch. of Pediatrics*) an aid in the diagnosis of measles, which has received scant attention from the writers on this subject. He says that there is nothing especially distinctive about the eruption in the pharynx, or in the hard or soft palate in measles. On the buccal mucous membrane and the inside of the lips, however, a distinct eruption is invariably seen. It consists of small, irregular spots of a bright red color. In the centre of each spot there is noted, in strong daylight, a minute, bluish-white speck. These red spots, with accompanying specks of a bluish-white color, are absolutely pathognomonic of beginning measles, and, when seen, can be relied upon as the forerunner of the skin eruption. They cannot be mistaken for sprue, because they are not as large or as white as sprue spots. These specks of bluish-white, surrounded by a red area, are seen on the buccal mucous membrane and on the inside of the lips, not on the soft or hard palate. Sometimes only a few red spots, with the central bluish point, may exist, six or more, and in marked cases they may cover the whole inside of the buccal mucous menbrane. If these bluish-white specks, on a red spotted background, are at the height of their development, they never become white opaque as sprue, and in

this respect, when once seen, are diagnostic, nor do they ever coalesce to become plaque-like in form. They retain the punctate character. He has noted and demonstrated these spots on the buccal mucous membrane when the other symptoms were so slight that other physicians doubted the diagnosis. He has been invariably confirmed in his diagnosis by the subsequent appearance of the skin eruption. The eruption just described is of the greatest value at the very outset of the disease, the invasion. As the skin eruption begins to appear and spreads, the eruption on the mucous membrane becomes diffuse, and the characters of a discreet eruption disappear and lose themselves in an intense general redness.

The author has thus minutely described this eruption on the mucous membrane lining the cheeks, in the invasion of measles, because there are so many conditions in infancy and childhood in which the signs resemble measles. At the outset, among those which are not mentioned, we find forms of erythema or mild urticarious eruptions, which are accompanied by fever and closely resemble the measles exanthema. An examination of the buccal mucous membrane for the red spots, tipped by bluish-white points, will quickly rule out these puzzling cases from the category of measles. He is convinced that these spots and bluish points appear in the mouth as soon as the mother notes that the patient is ill, at the very outset of the disease. In cases where this eruption has been absent he has always found that his exclusion of a probable attack of measles was correct. This makes the buccal exanthema a corroborative sign of the character of the skin eruption.

He calls attention to the fact that in some cases of beginning measles, the spots on the buccal mucous membrane are so few as to escape notice, if not carefully looked for. It is, therefore, advisable in all cases to place the patient opposite a strong light from a window, and, in opening the mouth, to evert the buccal mucous membrane with a spatula or with the thumb and index finger, pressing meanwhile on the outside of the cheeks.

A Constant Symptom of Hysteria.—Strozevski, of Warsaw (*La Médecine Moderne*, February 17, 1897), reports that when examining hysterical patients he observed, in connection with other characteristic symptoms of this affection, one which, up to the present time, has not been noticed. It consists of a complete abolition, or, at least, a very considerable diminution, of excitation upon certain portions of the body, by the contact of a delicate stimulant, such as, for instance, a piece of paper, or a hair.

If, on a healthy person, these spots are touched in this way, a sort of irritation or tickling is produced, with a more or less agreeable sensation. The experiment causes the person to place his hand upon the spot subject to the excitation. The most readily excited points are: the external auditory canal and the mucous membrane of the nasal fossæ; then the lower eyelid and the skin of the forehead. The least excitable spots are: The armpits, the skin on and under the knees, and the sole of the foot. In these last-named places Strozevski excited irritation with gentle movements of the fingers.

In hysterical subjects the above experiment does not cause any sensation, or, in some rare cases, a very slight sensation. Strozevski states that he has studied this symptom in more than fifty cases of hysteria, and has never found it absent, the same being the case in patients who, relieved of their sufferings, were about to leave the hospital. This symptom is equally present in hysteria with depression or with erethism, and in both sexes. It is doubtless of central origin.

A Simple Means of Throat Examination.—It is well known that many children have a dread of the doctor's visit—especially when the visit is made because of throat disease. The fears are increased if a spoon or tongue depressor is thrust down into the throat without ceremony. All of this, a correspondent of the *Medical Record* says, may be overcome by a method used by him for the past twenty years, which can be successfully practiced in nearly every patient over three years of age. It consists in simply teaching the child to use the index finger of either hand, thrust back along the tongue as near the base as possible, with the injunction to open the mouth wide and press down the tongue. In this way can be secured, after one or two attempts, a perfect view of the tonsils, and in many instances even of the epiglottis and the adjacent folds.

The reason why this is preferred is based on, first, the fact that a child, or even an adult, does not fear any injury from his own finger; second, his own effort will not provoke emesis or straining, as a trial will convince the reader; third, there is no danger of contamination by a dirty spoon or depressor, and no possibility of auto-infection, and, finally, the fingers are always at hand. This plan, of course, is impracticable in the moribund and in infants, but at least 95 per cent. of all instances of acute and chronic disease of throat or of foreign bodies can be more successfully examined by it than by any other method. The purport of this note is particularly directed to the busy every-day doctor and not to the specialist.

Aneurism and Syphilis.—A study of the connection between aneurism and syphilis in the *Annales de Derm. et de Syph.*, for January, by Prof. G. Etienne (*Med. News*) announces that 70 per cent. of 376 cases examined were found to have syphilitic antecedents, and this is a minimum proportion as it is so difficult sometimes to detect traces of old syphilis. With most of the aneurism the infection dates from five to twenty-five years. No histological difference between the aneurisms of syphilitics and non-syphilitics was noted with rare exceptions. Mercurial treatment is successful if the gummatous infiltration is still susceptible to absorption without leaving scleroma behind it, so that the tissues can resume their elasticity. When the lesion has advanced beyond this stage, specific treatment is ineffectual. The article concludes with the statement that aneurisms, therefore, with tabes and general paralysis, can be included in what Fournier calls parasyphilitic affections.

Cosmetic Laparotomy.—In order to spare patients an unpleasant scar, Dr. O. Kuestner, of Breslau (*Monat. F. Gerburtsh, U. Gynaek, N. Y.*; *Med. Journ.*), has devised the method of making a transverse incision through the skin and subcutaneous fat following a course coincident with a natural fold of the skin, more or less distinct, that occurs about the upper limit of the growth of pubic hair in women. This superficial incision is held well open with retractors, and the structures through which it has been made are dissected up from the muscular layer upward and downward to a sufficient distance to admit of the ordinary median incision through the deep part of the abdominal wall. In addition to the deep sutures the transverse incision is sutured with silkworm gut and, if primary union takes place, the linear cicatrix is rendered almost invisible by the pubic hairs and by the fact of its coincidence with the natural fold mentioned.

Appendicitis as an Epidemic Infectious Disease.—Prof. Goluboff, of Moscow (*Berl. Klin. Woch.*, January 4, 1897; *Intern. Med. Mag.*), holds that appendicitis is an infectious disease with a separate identity and is peculiar to the appendix in the same degree as follicular angina is to the tonsils, or dysentery to the large intestine. The affection occasionally assumes an epidemic form. In support of this view is the fact that in Moscow, during the spring, summer and autumn of the past year, the number of cases of appendicitis have increased to four or five times the average of the past ten years. One of the Moscow boulevards seems especially favorable to its development. Two brothers, schoolboys, contracted the disease in succession, as did also a fellow scholar who visited their sick room. Appendicitis closely resembles dysentery in its ranging degrees of severity, pathological anatomy and etiology. The origin of both is probably an auto-infection by the streptococcus, staphylococcus, or the bacillus coli,

which are found in the healthy individual, and which at times assume virulence from causes as yet unknown. Several cases have been reported in which appendicitis has been accompanied by polyarthritis, which is a common complication of dysentery and other infectious diseases. This view explains the causation of many obscure cases for which no cause is discovered at autopsy or operation.

Colored Spectacles.—Pergens (*Klin. Monatsbl. F. Augen.*) finds that smoked or neutral glasses allow red rays to pass through more easily than other rays, and for that reason they are not to be recommended as protecting glasses, the red rays causing most irritation of the retina. For the same reason ordinary blue glasses are also faulty, whereas a combination of a dark blue-green glass, with a No. 6 blue glass, excludes red, and is to be recommended. In measuring smoked and blue glasses he takes as unity the weakest glass which, at one metre, does not transmit the light of a Hefner amylacetate candle. Contrasting glass and rock crystal, he remarks, that glass absorbs much more of the ultra-violet rays, and is, therefore, to be preferred for cataract glasses.

Cocaine.—Magnan described as a characteristic symptom of cocaine poisoning an hullucination which consisted of a sensation as if foreign bodies were under the skin, generally small, round substances like grains of sand.

Korsakoff reported the case of a woman suffering from multiple neuritis, who complained of a sensation as if a worm were under the skin. This woman was being treated at the same time for a uterine affection by means of vaginal tampons containing cocaine. A discontinuance of these caused the subcutaneous sensation to disappear.

Influence of Tobacco on the Nervous System.—Buccelli (*Riv. di Patolog. Nerv.*, 1896, p. 327) concludes from his investigations of 200 patients with nerve and brain troubles, and others, that tobacco affects the *normal* nervous system to a comparatively trifling extent, but as soon as the condition of perfect integrity is impaired, its effect is extremely and progressively pernicious. The subcortical and bulbar nerve centers suffer particularly then from the toxic effect of tobacco.

Is Consumption Decreasing?—Dr. Arthur Ransome, as quoted in *Popular Science*, thinks that if phthisis were to continue to diminish in prevalence at the same increasing rate of decline for another thirty years it would then have entirely disappeared. The first great drop in its rate took place in the decade of 1840 to 1850, about the time that attention began to be given to sanitary reform, and especially to land drainage. It then remained scarcely reduced for about seventeen years; but from 1867 to 1894 it had been steadily on the decline. It is in this period that most of the great sanitary work has been carried out in this country. This indicates the direction in which an effort should be made toward stamping out a disease which is said to carry off one-seventh of the human race.

The Nomenclature of the Brain.—The nomenclature of the brain shows how ideas may influence language, says Dr. F. R. Campbell in *The Language of Medicine*. Our anatomical fathers believed that in the encephalon the homologues of all the parts of the body, both male and female, could be found in miniature; and if in your text book on anatomy you turn to the description of the brain you will find arms, brachoa; legs, crura; knees, corpora geniculata; breasts, corpors mammillaria; five stomachs, ventriculi, one of which was anciently called the womb, utriculous; a vulva cerebri; buttocks, nates; testicles, testes; a penis, clava; a vulgar name for the pubic hair, flocculus; a veil, velum interpositum; and a marriage bed, thalamus. With all this procreative apparatus before us we are not surprised to find a union (fornix) and numerous offspring, quadruplets (corpora quadrigemina).

Bees on a Bender.—In a late issue of the *Journal of Botany* are details of Mr. T. L. Williams' experiments on bees. He says that these insects often get drunk. Their intoxicating tipple is the honey produced by the crowded flowers of the capitulate heads of certain compositæ and dipsaceæ. When the stage of intoxication is reached it is indicated by rolling on the back, striking the legs wildly in the air and general helplessness. The bees rapidly recovered from the effects, and in most cases were eager to repeat the debauch. But one individual manifested the next morning a disgust, raising its head and forelegs as high as it could above the plants, and hurrying away as soon as released. It is suggested that the rolling consequent on their intoxication is a means of distributing the pollen to other florets of the same head.

The drink problem on American railroads is a question of business, and without any sentiment. If the man who uses spirits in moderation or excess shows any incompetency, he is discharged at once. An engine was sent to the shop for repairs more frequently than usual; an inquiry showed that the engineer was a beer drinker. The inference was that beer had disturbed his judgment and made him more reckless, and he was discharged. Practical men are afraid to use spirits on the road for fear they will neglect some duty, and not act wisely in an emergency. Recently, a great railroad corporation gathered all the facts concerning the men, and the conditions of every accident which had occurred on their lines for five years. When tabulated, it appeared that 40 per cent. of all accidents were due altogether, or in part, to the failures of men who were drinking. That in 18 per cent. there was strong suspicion of similar causes, yet no clear proof. In one year over a million dollars' worth of property was destroyed by the failures of beer drinking engineers and switchmen. The companies' rules requiring temperate men for all positions are more rigorously enforced. Engineers find that, practically, they are unable to do good work while using spirits, even in small doses. The coolness and presence of mind so essential in their work is broken up by alcohol in any form.

OBITUARY.

In the sudden death of Dr. J. F. Talmage of heart disease, at the country seat of his daughter, near Rye, the profession has lost one of its most brilliant members, and the large circle in which he moved a loved friend and faithful physician. Dr. Talmage was a graduate of Rutgers College and for a time professor of languages in a Southern university. He commenced the practice of medicine nearly forty years ago in association with Dr. A. Cook Hall, of Brooklyn. Courteous and dignified in his manner, yet with a nature full of warmth and sunshine, of rare scholarship, quick in thought, energetic and prompt in action, full of resources, he soon gained an enviable rank among the leading members of his profession. Notwithstanding his professional path was principally among the wealthy and cultured, leaders in society and in the world of thought, his professional skill was none the less at the service of the poor, who always found in him a generous friend. Passing away at the early age of sixty-four, he has left in the unstained record of his life work a proud inheritance to his children and a loving memory to his friends.

The many social and hospital friends of Mrs. H. M. Stout were startled to hear of her sudden death the last of June, at her country residence at Bellport, Long Island. Since the organization of the Hahnemann Hospital Mrs. Stout had been one of its most energetic and efficient workers. Only a few weeks before Mrs. Stout's death her associates in the Ladies' Auxiliary Association presented her a loving cup in appreciation of her services in organizing and carrying to a successful termination a fund for a free bed in the hospital for the police and fire departments of the city.

MISCELLANY.

—Da Costa says the local anæsthetic effect of cocaine is much more rapid by heating the solution.

—A sanitary bible, bound in celluloid, which can be washed, has just been introduced into court rooms.

—In Great Britain there is one medical school to about 2,300,000 of the population; in this country there is one to 2,110,000.

—The Princess Frederick Leopold of Prussia is undergoing a regular course of training as a hospital and field nurse.

—Warmed and ventilated incubators for sickly babies can now be hired in Berlin, on a request signed by a medical man, at from $8 to $15 per month.

—A local paper, speaking of a street accident, says: "Dr. Jones was quickly summoned, who, after examining the patient's purse, decided that the case was hopeless."

—A physician who has given much thought to the subject says that so long as the cyclist can breathe with the mouth shut he is certainly safe so far as heart strain is concerned.

—A mother ten years and two months old, with a plump healthy babe, is reported by the *American Journal of Surgery and Gynæcology* as probably the youngest yet heard from.

—Statistics gathered from the Southern hospitals for the insane, show that among the colored population insanity and pulmonary consumption have greatly increased in that section since the civil war.

—Mr. Harris-Liston describes, in the *American Medico-Surgical Bulletin*, a form of insanity caused by blows upon the head with the open hand. This may be by the teacher as a punishment, or by a pupil in play.

—The Dean of the Paris Ecole de Médicine has been authorized by the faculty to accept the bequest of M. Ch. J. Mautter for the foundation of an annual prize to a woman doctor for a work on the diseases of children.

—Medical practice in England (*Cleveland Med. Gazette*) seems to be about run into the ground, according to the newspapers. A potato merchant over there offers free medical attendance and medicine to all customers purchasing his potatoes.

In 1512, in Rome, the centre of the Christian world, thirty-two years after the discovery of America, an ox was sacrificed in the Coliseum, to the heathen gods, in the hope that by propitiating them the plague that was then raging might be stayed.

—The University of Wuerzburg accords the distinction of having made the most important discovery during the past three years to Prof. Behring, for his diphtheria antitoxin, and has bestowed upon him a gold medal and a purse of 1,000 marks.

—At the annual meeting of the American Institute of Homœopathy, at Buffalo, Dr. A. R. Wright, of Buffalo, was chosen President, and Dr. W. E. Green, of Arkansas, Vice-President. Dr. Eugene H. Porter, of New York, was again chosen General Secretary.

—The simplest test for diabetic urine is to place a little on a piece of bright tin, which is held over a spirit lamp until the urine has evaporated. If sugar be present the last portion of the urine will give the characteristic appearance and odor of burnt molasses.

—Mortuary tables (*Popular Science*) show that the average duration of the life of women, in European countries, is somewhat less than that of men. Notwithstanding this fact, of the list of centenarians collected by the British Association, a fraction over two-thirds were women.

—Miss Columba Rivera has been licensed as a practicing physician, and appointed to the woman's ward of St. Andre's Hospital. She is the first woman in Mexico to obtain such a position. Miss Rivera has studied medicine for four years, passing her examinations with great credit.

—Dr. E. C. Buell (*Pacific Coast Journal*) suggests, in relation to difficult catheterization, unless arising from tight organic stricture: *Moderately or completely relax the anal sphincters.* You will then be surprised to find how easily the properly selected catheter slips into the bladder.

—The *Canadian Journal of Medicine* has discovered that a reasonable explanation of the hard times theory of exemption from sickness is that a long, strong dose of misfortune is either a powerful tonic to the brain and nervous system, or a depressing influence which leads to despair and suicide.

—According to the *Gaz. d. Osp. E. D. Clin.*, a new process, invented by the chemist Linde, compresses air until it contains 70 per cent. oxygen, instead of the usual 25 per cent. A bottle of this air, put up in the mountains or at the seashore, will supply you at your residence with the healthiest and purest air in the world.

—Lawson Tait says that the only way an operation can be estimated justly is to ascertain its remote results. "It would matter very little if an operation had no primary mortality at all if it left the majority of its subjects maimed, halt, or insane at the end of two years. The absence of injury in secondary results is the cause of so much change of fashion in surgery, to say nothing of medicine."

—For a doctor to habitually recommend his patients to have his prescriptions put up at a certain pharmacist's establishment is regarded as disgraceful in Germany. Recently, in the Berlin Civil Court, a physician was fined very heavily for exhibiting a placard in his waiting-room, on which was written: "Please note that my special prescriptions are properly prepared only at the White Swan Dispensary."

—At the session of the Paris Academy of Medicine held March 16th, Chatin mentioned a case of typhoid fever following the ingestion of oysters. He stated that there was little danger of infection from oysters even when grown in unhealthy places if they were placed in pure sea water for a week before being eaten. The sea water hinders the development of the typhoid bacillus and increases the resisting power of the bivalve.

—As a result of the discovery by the French chemist M. Moissan, that diamonds can be made by saturating melted iron with carbon, and then cooling under strong pressure, M. Rossel reasoned that diamonds should be found in hard steel, as it is produced by a process similar to that of M. Moissan. At a meeting of the Academy of Science in Paris M. Rossel exhibited magnified photographs of several of these minute gems taken from bits of steel.

—The *British Medical Journal*, in a recent issue, sounds an alarm concerning the rapid spread of the cocaine habit in England, where it threatens to become the third scourge of humanity, alcohol and morphine being the first and second. All ranks of society are declared to be crowded with its victims—both men and women—many of whom are literary people, who take cocaine to stimulate their imagination. The *Journal* advises that most stringent measures be adopted to eradicate this blighting vice.

—One of the pleasant features of the work of the American Medical Association at its late meeting is that it assures the erection of the statue to Dr. Rush at the national Capitol, where Philadelphia is already honored by a statue of Dr. Gross. These two men are fairly representative in diverse ways of American medicine, and particularly of Philadelphia medicine of the past. It is encouraging to note, however, that Philadelphia still, as in the time of Rush, and still, as in the time of Gross, is a center where the practical art and pure science of medicine are exemplified in the excellence of its teaching and the ability of its professional men.

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M.D., LL.D., New York.

Identica, Similia Contraria.
By these Signs We Will Conquer.

PART VI.

ANIMAL CHARCOAL.

"NATURE'S noblemen should be tried by their peers; but he has gone and left no peers." Seventeen years ago there died a grand old physician who had filled his life with good works. With tireless energy he devoted his days and nights to the service of science and mercy. Little did he care for the contempt and ridicule of the many, who were often too willingly unconscious of his noble and self-sacrificing generosity. While they were employing the very means that he had put in their hands to use for the benefit of the sick, others were receiving the plaudits of the whole medical world *nearly a generation* after he had spoken the same truth plainly in the heedless ear of a prejudiced profession. Among other remedies, he gave to a thankless multitude one of the sheet anchors of hope to failing hearts in many serious maladies.

He rescued from old women, charlatans and perpetual oblivion some of our most useful drugs.

His only fault was intended as an act of kindness to the memory of his immortal master. After the death of that master there was found among his unpublished papers an extensive work on animal magnetism. The treatment of the subject was so much in advance of the times that even his far-seeing pupil dared not offer it to the world lest ridicule of its contents might do much to blight all his other work.

One who reviewed its pages and acted as amanuensis for a part of the treatise gave evidence to a personal friend of the writer, which makes it seem more than probable that it would have been in advance even of Charcot. The leaves were destroyed simply because it was feared that its wonderful suggestions might be mistaken for imbecility rather than great and prophetic genius.

The error must be forgiven when we consider all the good work that this pupil did, not only for the propagation of the medical faith of his master, but also the great new remedies he gave to the world, as well as those old, neglected drugs whose value he compelled men to appreciate by perseverance. Among the latter we have the then despised *hamamelis*. To-day there are very few intelligent physicians who do not know the value of *witch hazel*. In those days only a few of the simple people used it.

This old physician's greatest offering was made to the profession long before many who are in practice to-day were born.

After some years of experimental proving and earnest study of a chemical, which had then only recently been discovered, he published the results of those inquiries in several numbers of a German medical journal early in *1854*. He was led to an investigation by observing the peculiar arterial tension produced in those who were handling that most precious drug, *nitroglycerine*. Although this grand old medical giant labored in developing this chemical into a therapeutic power, and while nearly all physicians know something of the various recent medical men who have been given credit for discovering its value, yet how few there are who have ever heard of that unselfish benefactor of mankind, its true father—*Constantin Hering!*

His name is mentioned here because from him the writer has learned many things about the medical history of *animal* charcoal.

The probability is that future physicians will adopt even the most extreme of the ancient views and applications of this singular drug. They will clothe it in more scientific apparel than it ever before has worn. It doubtless will stand among the many medicaments and ideas that will have crept from the homes of ignorant superstition to the realms of science. Of course in its future refined surroundings it may be difficult to guess its lineage; but the great central law which has governed it in other centuries will still cling to it in centuries to come.

We are told that "burnt animal substances—porcupines, swallows, moles, human bones, etc., have been used in medicine before and since the time of Dioscorides, for glandular affections, scirrhus, epilepsy," etc.

"1708. Quesnot, Plusieurs secrets rares et curieux; page 124, Paris."

"1840. Fueter, *Schweizer Zeitschrift*, makes mention of burnt moles as useful in goitre, glandular indurations and scirrhus."

"1845. Dürr used human bone coal successfully in mesenteric atrophy."

Impossible as these things appear, yet the future will attentively consider each and all of these seeming absurdities and may therefrom gather much valuable therapy.

To many hundreds of symptoms and conditions has animal charcoal been applied, but its most marked energy seems always to have been in the direction of dissipating glandular indurations. Some have insisted that long, persevering use of it, even in carcinoma, has given favorable results. A most esteemed, able, observing and conscientious physician used it with great confidence in a family with a terrible inheritance of malignant disease. The moment any of the family, particularly the female members, exhibited the slightest glandular induration, especially of the mammæ, he put them on the animal charcoal and kept them upon it, at intervals, for years, and during a long life none who thus used the remedy developed malignant disease. While he felt that it was impossible to assert that any of the cases would have proved cancerous, yet these indurated tumors disappeared as they had never been known to do before.

Of the ancient and modern record of cures by animal charcoal only a few can be mentioned

here. Among them are many persistent indurations of the superficial glands, especially about the neck; also those of the axiliary and inguinal regions, especially when they have burning and lancinating pains; also the parotid and thyroid glands and the testes. Indurations of nearly all the internal glands and organs, especially the ovaries, uterus, pancreas, stomach, pharynx, tongue, etc; also indolent ulcerations and suppurations. But the most peculiar application of coal from animal matter is that of charcoal made from morbid tissues, such as cancerous diseases, and then applied to the same diseases in man. Each and every diseased condition in tissues or organs being so prepared and used in the various *identical* diseases; the process of preparation for use being continued all the way from partial burning, to complete, as in charcoal or ash.

All these ancient ideas which we jeer at as stupendous follies will be gravely and earnestly considered, and many times men may yet be forced to exclaim, "Is it possible that such apparent absurdities contain the germs of living truths?" Each passing year is crushing the vanity of our intellect; and in the coming years we would be stunned and humiliated did not the revelations develop so gradually that we have time to breathe between those wonders that instinct and simple faith taught during years that are forgotten. Science will seriously espouse many things which we or our forefathers called superstitions.

If we more carefully interrogate the past we will learn somewhat of the future.

REPORT OF FOUR CASES TREATED WITH CARNOGEN AT THE METROPOLITAN HOSPITAL, NEW YORK.

By Herbert P. Leopold, A. B., M. D.,
Assistant Resident Pathologist, Metropolitan Hospital. New York. and
H. O. Sommer, M. D.,
Late Assistant, Zoölogical Laboratory. United States Bureau Animal Industry.

THE following investigations were prompted by the many reports coming to our notice extolling the value of bone marrow and bullocks' blood in the treatment of anæmia and conditions of malnutrition where a nitrogenous food in assimilable condition is indicated. The results of these investigations prove satisfactorily its value as a producer of tissue and corpuscles, and induces us to report them as of unusual interest to the profession.

The carnogen was administered in half-ounce doses three times a day before meals, each dose in a wine glass of cold water. In all the cases the patients' bowels were kept from constipation.

Case No. 1. Nellie G.; Aged fifty-six years; married. Was admitted to the hospital for treatment for chronic alcoholism and subsequently gastritis. Inspection of finger-nails, conjunctivæ and lips showed patient to be markedly anæmic.

	HÆMOCYTES.	LEUCOCYTES.	HÆMOGLOBIN. per cent.
June 15th	3,250,000	9,000	35
June 30th	4,785,000	7,000	55
July 14th	4,970,000	6,000	60

At the end of the period of observation the marked signs of anæmia had disappeared and patient's general condition greatly improved.

Case No. 2. Rebecca P. Aged twenty-three years. Single. Patient was admitted to the hospital suffering from hysteria and rectal complications, the result of previous operations (double ovariotomy and hysterectomy). She was greatly emaciated and anæmic; hemorrhages from rectum were a frequent occurrence.

	HÆMOCYTES.	LEUCOCYTES.	HÆMOGLOBIN. per cent.
June 15th	2,500,000	8,000	50
June 30th	3,250,000	8,000	60
July 19th	4,750,000	7,000	75

The patient's condition has so greatly improved that she is now ready for surgical treatment.

Case No. 3. Anna C. Aged thirty-seven years. Widowed. Pale and emaciated, having just recovered from a severe and exhausting attack of dysentery. Had been a sufferer from rheumatism for a great many years.

	HÆMOCYTES.	LEUCOCYTES.	HÆMOGLOBIN. Per cent.
June 16th	2,600,000	9,500	62
July 1st	3,400,000	9,000	78
July 20th	4,700,000	8,000	81

Immediate improvement was noticed. Patient began to feel better during second week of treatment, and rapid recovery from her rheumatic complaints coincided.

Case No. 4. Ellen McD. Aged fifty-seven years. Single. Laundress. Has been a sufferer from rheumatism to such a degree that she has been confined to her bed for the last three years with complete loss of function of lower extremities. Left hand flexed and fore-arm partially paralyzed. Attempts at passive motion excited considerable pain. In addition she presented symptoms of decided anæmia.

	HÆMOCYTES.	LEUCOCYTES.	HÆMOGLOBIN. Per cent.
June 16th	2,000,000	9,000	45
July 1st	4,360,000	9,000	50
July 20th	4,989,000	8,500	60

No improvement after administration of carnogen until after second week, when she of her own accord spoke of feeling better and her complexion showed decided improvement. The skin also reddened more rapidly in response to massage than it did on the first day of examination.

In conducting the above examinations care was taken to observe the usual scientific methods for minimizing those errors which are always incidental to this kind of work.

Fleischl's hæmoglobinometer was used to ascertain the percentage of hæmoglobin. The hæmocytes and leucocytes were counted by means of the Thoma-hæmocytometer.

Consular Agent Landgraf, at Blomfontein, says that no country on earth can rank with Orange Free State as a health resort. It is pretty well populated and cultivated. Living is rather expensive, and persons intending to go there to reside should command from $50 to $60 per month. Those in advanced stages of lung tuberculosis should not proceed at once from the sea to Orange Free State, but stay in other places for a time until they are able to stand the dry climate.

THE INFLUENCE OF A LIBERAL EDUCATION WITH REFERENCE TO MEDICAL ETHICS.*

By Elmer Lee, A. M., M. D., Ph. B., New York.

SINCE the first days of medicine, when the responsibility of the body as well as the soul was entrusted to the priest, what is known as civilization and progress has worked a mighty change in the habits and methods of mankind with reference to the practice of preventing and curing disease. During the first days of history authority was limited to a few, of which the priest was the principal representative, and to him, therefore, naturally fell the care for his people in both secular as well as sacred things. Reference to priestly methods of treating disease at these early times reveals the interesting facts that the worshipers who were ill placed all confidence in the ability of their father-confessor to cure the body as well as to save the soul from perdition, while the priest himself, by reason of his ignorance, put his trust in Nature's remedial ways. Through fasting and waiting and use of harmless potions or witchery of some kind or other, devised to appease the unreasoning curiosity of the suppliant, relief, when it appeared at the hand of Nature, came to be associated with the material thing that happened to fall from the cunning of priest or sooth-sayer in his mild imposition upon the trusting and superstitious patients. What other reason could have influenced Moses in his masterful play upon the imagination of the children of Israel at the time of his great responsibility, for control of both body and mind was required to accomplish their deliverance. In the early days of the medical art there was little need to consider the influence of liberal education and ethics, because the priest was the repository of all education, and ethics in medicine was not needed. The head of the Church was master of the people, and, assuming the whole control, there was no one with whom to dispute as to potentials, or differences likely to arise concerning the best treatment of appendicitis, or complications that required ethical considerations when his fee was rated at $5,000 for services of intubation or appendicitis, while operations of snipping the offending muscle in heterophoria for the cure of locomotor-ataxia was passed by without comment or jealousy toward the originator of this highly important discovery.

But to-day it is different; the priest no longer holds himself in authority as to the treatment of the bodily ills of his congregation, for this duty of his sacred office has descended to the physicians, who constitute a separate guild of ever increasing proportions. The wealth of diffused knowledge has become co-extensive with civilization, and is equally the property of all classes, professional and lay. More is demanded of physicians than formerly, for with the increase of perception among the ranks of all classes of men there is a wider range of discrimination and keener judgment, as well as less patience with imposition. But with the advancement of universal learning, commercialism has invaded the once sacred threshold of medicine in its highest places, and with such unremitting activity as to threaten forever the hope of a return to simplicity in the management of the sick. The mighty power of the printing press swings in the unjust as well as in the just cause, the cold types proclaim both truth and error on the same day and side by side. To the physician, ever hopeful that he may attain to the mount on which it will be able to see Nature in her verity as relating to man and the vital processes by which his life is extended from day to day for good or evil, for the most part is doomed to disappointment. The confusion in medicine, which is spread by the publication of error, is a match for the advantages which would be supposed to naturally follow from the universal press. The wonderful growth of libraries with their intricate treatises on every subject, hourly increases the difficulty of distinguishing fact from error in medicine, and augments the premium for clearness of mental vision in order that that which seems to be may not be mistaken for that which is. There are many splendid examples in medicine of untutored men who have conferred honor upon the profession and who have met the exigencies of disease and triumphed over sickness and death to the advantage of a human soul whose life hung in the balance. Though it would stand to reason that with the faculties thoroughly trained these same men might have obtained far greater laurels, added to the satisfaction which is felt when one comprehends the truth of things. From the very excess of riches in experience, and the multiplication of books filled with what almost seems to be every conceivable view of medicine, and from every standpoint, a liberal education of the faculties is forced upon us as a necessity, if any small part of this mighty mass of literature is to be available for use. The tendency of the era in which our lives are cast is toward higher and continual investigation, and so methodical that it is scarcely possible to miss the smallest and least important phase of any subject. There is well nigh no beginning and no end to opportunities for research. Each generation piles up a very avalanche of printed mind-action to swell the libraries beyond the hope of any man's ambition to master their contents. Were Macaulay with us to-day, even his voracious appetite for books would pale at sight of the task.

But to what use are such collections of universal knowledge if there is no mind to grasp their meaning, so that it appears that the greater the list of things written about, the larger the need for a trained intellect to comprehend what is written. The activity of the human mind and the hand of man is never at rest, for somewhere in the world the thinker and investigator is working, while the result of the intricacies wrought by these deep-thinking and patient toilers is to constitute the knowledge which must be mastered by the student of some future generation ere he can

* Read before the American Academy of Medicine, Philadelphia, May 29, 1897.

attain to the distinction of a liberal education. That very much, indeed, of what is placed before the student by the educator has no practical application cannot be doubted. So that to know a few valuable truths which are applicable to the complex life of the profession of medicine of today requires many years devoted to hard study, not infrequently resulting in the death therefrom of a promising member of society. But the inexorable demand to know what is to be known increases with each new age, and the more there is to be learned by so much more is the imperative command to equip with preparation for the human struggle of the survival of the fittest. The strife among the human family for pre-eminence in arts and science is noble but costly as to lives worn out in the race for position. Competition is unrelenting and never ceases, and reputation for excellence in medicine is able to withstand the siege of the newer and younger men but for a short space of time. The man of experience and real ability soon grows "too old and foggy" in the estimation of the possessors of last year's untarnished diplomas. Some of these young men are more considerate of both their seniors and their contemporaries, if they happen to be, in fact, liberally educated and conscious that in this day information is within the reach of all who desire it. It did not appear to me as student that Latin syntax and Calculus were needed to prepare the mind for a comprehension of physiology and therapeutics, and it was a sore trial to face the professor with a task that seemed beyond my power to master, but the value of that training is plain to see at this time.

Medical welfare or ethics of the closing days of the nineteenth century requires the best and broadest liberal education possible, to detect the dissemination of error spread widecast by the spurious medical literature produced by the greed of commercialism in medicine. Thousands of tons of false estimates by medical men and laymen, advocating the supposed merits of more than 25,000 remedies falsely used in the hope of curing disease, are flowing through the mails and into the offices of the profession of medicine, to the disparagement of the best welfare of the physicians and their patients. In some instances the people look upon the physician as but little different from the druggist in whose store the doctor is accustomed to pass much of his leisure. The public is very much of the opinion that the cures for the disease reside in the drugs of the apothecary, and there are many physicians who still hold to the same notion, notwithstanding ever recurring failures of their cases to recover from sickness under the popular plan of treatment in vogue. To create right thinking and to develop the powers of discrimination and remove the misapprehension and misinformation of the profession is what is hoped for through the work of the Academy of Medicine. For so long as empiricism in the treatment of disease lasts, even though it is not called by that name, it is impossible to see how the profession can ever become a unit and act in accord.

The main thing for which an education is sought is that the powers of perception and reason may be developed to that degree which will assure accuracy. The difference in the mental perceptions by individuals and its influence in shaping a course of action with reference to curing disease, is a condition opposed to medical unification. But were all who enter upon the study of medicine rightly and thoroughly prepared by systematic college training, as recommended by the Academy of Medicine, the disagreements between physicians could be reduced to a small part of what they are at present. It is but a different view of the same subject that permits the existence of opposing schools and sects in medicine, and this largely is a result of variations in the preliminary training before the work of the medical school is begun. At this time there is a division of the members of our profession with reference to a code of ethics, the real basis of which is as to whether it is right to consult with men who hold to the doctrine of administering placebos, otherwise known as homœopaths. It matters not what creed is formally adopted, the fact is that their practice is principally a system of giving inert remedies and trusting to nature to cure the patient. The code forbids consulation with those who practice homœopathy and discountenances those who are not formally within the regular school; we admit that these men who hold this peculiar theory are entitled to the privilege of their convictions and that they are equally conscientious in their beliefs and practices as are those who differ from them. Contention and argument have been found to be useless in dispersing their convictions, and coercion is neither desirable nor in our power, but what would be the influence if universal liberal education preceded medical study? At no distant day this is believed to be possible, and it is the hope of those whose hearts are deepest in interest for the welfare of the physician, that liberal education will settle many of the unhappy disagreements that are found among the various sects in medicine. Liberal education for all is the hope of the twentieth century profession. Even with broad learning it will always be possible for the industrious to excel his slothful contemporary, but admission that his less fortunate brother possesses the culture and dignity conferred by an education in letters, would at least entitle his views to respect.

It may be too sanguine to hope for unity in thought and action for the medical profession, however near may be the approach to universal education. With the growth of the tree comes new twigs and buds ever further and further removed from the parent trunk, the source of the whole strength. The division of the human body into regional anatomy and the prevailing drift of medical students to select a twig or branch of the divine unity has furnished modern society with a medical specialist for each anatomical division and for nearly every symptom of disease. This scattering of responsibility has increased the numb r of diseases and added to their fatality. For there are physicians who without the experience or comprehension of the intricate processes

of nutrition and assimilation, through which alone the heath can be maintained, assume responsibilities for which their training has not prepared them, to the disadvantage of the patient and the injury of the profession. Local symptoms which are the mere expressions of some fault of organization or failure in assimilation of nutrition, constitute a large part of the cases claimed as the exclusive prerequisites of specialism. There are honorable but mistaken specialists, who through the want of sufficient experience in general practice, have been known to believe and to teach that the health of the body depends upon a slight astigmatism or heterophoria, or a deflected septum, or adenoid in the throat, while others allege that sickness is attendant upon a fringe at the anal opening or to the presence of an untrimmed clitoris or uncircumcised prepuce, and osteopaths who assert that disease is the result of displacement of the bony articulations. These conflicting estimates by reputable men added to deceptions of the host of schemers and quacks, further augmented by the plausible misstatements which daily crowd the public press, conspire to overthrow the dignity and influence of the most ancient and noble of all the professions. This distracting condition is in a large degree attributable to deficient requirements for liberal education and the consequent overcrowding of the medical profession with men who find no alternative than to turn sooner or later into the channel of medical commercialism, some of them through the dire force of necessity to keep the wolf from the door. The people are bewildered by the resulting confusion and contention among schools and sects in medicine and by the individual pretenders who shout their cures through medical, religious and secular publications.

The present decade has witnessed a practical change for higher liberal and medical education in the standards for license fixed by New York, Pennsylvania and already many of the States. Since the practical enforcement of the standard in New York, a period of about six years, my information is that the Regents have declined to license nearly 1,000 applicants whose markings have fallen below the requirement of a percentage of 75 per cent. for each branch of study included in the examination. It is too soon to state what the whole effect for good will be, but already there are encouraging signs that the higher standard for license is the promise of a realization of the ideal of fellowship, the highest usefulness by the profession and the glory of twentieth century medicine.

10 West 49th street.

Alcohol is no longer regarded by physicians as a life-sustaining substance, or as a tonic (says Dr. J. N. Quimby), but is classed as an anæsthetic. As an anæsthetic, peculiarly affecting the moral sense, wherever in the brain that sense may be located, it is found to be by far the greatest factor in crime, as abundant statistics have proved. The personal abuse of the drug to criminal excess is difficult to define and prevent; but what argument can there be against suppressing public inducements and incitements to this abuse—in other words, open dram shops?

APPENDICITIS—A CASE, WITH COMMENTS.

By Charles E. Page, M. D., Boston, Mass.

ON Thursday, August 5th, of the present year (1897), the writer was called to attend a case of appendicitis. The patient, a man of about forty, has for the past two years had a similar attack every three or four months, each resulting in a critical and painful sickness. Nearly all of the time between his acute attacks there has been a sore feeling in the region of the appendix, and he has been urged to have an operation for the removal of this organ, and has been seriously contemplating this action. The patient (Mr. G. B.) has been fortunate in having as his regular medical adviser a physician who gives little medicine and knows something of the value of cold water as a remedy, hence he has escaped the long illnesses so common in such attacks, usually having to lie in bed in severe pain for a week or ten days.

In the present instance the attack was of about the usual severity, except that he had a deathly chill, which was an innovation, and might be regarded as indicating a more than usually dangerous state. His physician being out of town, I was called in. I found my man in a severe chill and in extreme pain. He had retained his flannel undershirt, had on an ordinary night gown, and the bed covers consisted of two heavy woolen blankets and a heavy spread, while the nurse had placed a hot fomenting flannel, wrung from hot water, over the seat of pain, with a hot water bag over that, which in his chilly state seemed to him the right thing, though it did not tend to banish the chill—far from that.

My first move was to remove the hot pack, throw off all of the bedcovers and also to have the underflannel taken off. I then applied a thickly folded towel wrung tightly from ice water over the parts that had been under the hot fomentation, giving gentle kneading through this "cold compress" until the towel became well warmed up, a matter of two or three minutes. My patient was then turned on his belly, and his shoulders and upper back received the same cold towel massage, after which the chest was similarly treated, the thickly folded towel in every case being wrung from ice water, and the treatment given till the skin was quite red. These water treatments lasted about a half hour, during which time I administered hot water (placebo hot mixture), two doses of about a half gobletful each, with 3 homœopathic pellets, number 30, size of a pin-head, certainly not sugar enough to embarrass the system very much! By this time my patient, who was so terribly cold under "all the blankets they could pile on," clad in flannel undershirt and being locally boiled with hot water, found himself perfectly warm in simple night shirt with sheet over feet and legs, his chilliness completely banished and the pain markedly reduced.

As a finish for the time being I put on a cold pack round the lower body, two folds heavy linen

towel wrung tightly from ice water, with two dry outside, pinned snugly but not tight, to be freshened as often as it became too warm for comfort, as every two or three hours. The "hot mixture" was to be taken every hour, and a half cupful of plain (!) hot water as often. Fresh water *ad lib.*

Six hours later I made my second (and last) call to find the patient feeling so well that he asked if he might go to his office in the morning. He obtained permission to do so in case he should feel well enough, and there I found him about 10 A. M., not, to be sure, feeling quite like a baseball player, in the pink of condition, but much better than usual after his longer sicknesses, and his gain was rapid from day to day.

He was allowed no food during the day of his sickness in bed; indeed, he had no desire for it, but on the following day, about 1 o'clock, he was given permission to take a moderate portion of stale Graham bread and milk, about a cupful. He was directed to eat very moderately, and not a crumb or sip of food was to be taken unless for genuine hunger.

The treatment given in this case, judged by the results, must be regarded as perfect, consisting of a fast-day, hydrotherapeutic treatment to the limit, internally and externally. His former experiences had been with moderate local cold-water treatment only, or what might properly be termed a half-hearted cold-water treatment, with a diet of broth, eggs, tea and toast, "to keep up his strength," by which means he was made "strong" enough to lie in bed a week or more, all the time in an agony of pain. On plain water he grew strong enough to rise and go about his business in twenty-four hours.

The prevailing treatment remains to be described. Had a routine drug doctor been called in he would have indorsed and continued the hot fomenting treatment. He would doubtless have administered an opiate for the pain, thus lowering the patient's vitality and lessening his chances of recovery—deadening his sensibility of pain, instead of removing the cause of the pain—and the patient would have been another of the too numerous victims of forced feeding, consequent indigestion, malassimilation and blood poisoning from the putrescence of the food ingested. In view of such management is it at all to be wondered at that appendicitis has come to be regarded as a frightful disease, that there are so many fatalities, or that the entire laity are "rooting" for the surgeons in advocacy of an operation whenever, as a friend of mine, a veteran regular, recently remarked, any one of their friends has the bellyache?

It will be interesting here to refer to the experience of ex-Congressman Augustus W. Cutler, of Morristown, N. J., who was operated on last year for "appendicitis." The newspaper account was as follows:

"MORRISTOWN, N. J., Dec. 18.

"Ex-Congressman Cutler is enjoying rather a grim joke at the expense of the medical fraternity. For three weeks Mr. Cutler has been confined to his home here suffering from what the doctors declared to be appendicitis. He had experienced a similar attack some years ago and felt no uneasiness. However, as the present attack proved to be too much for the remedies (*sic*) applied, Mr. Cutler finally consented to undergo an operation. On Monday Dr. ——, the —— —— specialist, performed the operation. The patient was placed under the influence of ether and the surgeon made an incision at the proper point. But he didn't find the vermiform appendix. Mr. Cutler didn't have any! So the incision was sewn together and nature is now finishing the cure. Mr. Cutler now chuckles whenever appendicitis is mentioned. 'I read of a Boston man,' he says, 'who took a precautionary step which I think I shall follow. He wears a card pinned to his undershirt bearing this inscription: 'My appendix has been cut out.' He says he does this to keep the doctors from operating on him for appendicitis in case he is picked up in a fainting condition on the street some day. I think I'll do the same."

154 Fremont street, Boston.

CASE OF CONCUSSION OF BRAIN.

BY J. E. MOITH, M. D., FISHKILL LANDING.

WHEN the brain is injured three conditions may be the result of the traumatism, *viz.*, concussion, irritation and compression.

In this paper I will confine myself to concussion of the brain, or cerebral concussion.

This condition can be defined as a shock applied to the head by external violence, producing interference with the cerebral convolutions and causing commotion of the brain itself. Sometimes the patient remains unconscious for many hours, occasionally he never rallies and frequently he loses consciousness but a very short time. It seldom happens that any one dies from concussion of the brain. When death does occur autopsy shows that congestion of the brain and its coverings has taken place or that there has been an injury or laceration of the brain substance, or that there has been a disorganization and contusion of the brain.

In the mild cases of concussion the patient has vertigo, is slightly confused. Sometimes he is not made unconscious, but simply feels faint, and must either lie or sit down. In the serious cases to which a physician is commonly called the body is found to be cold, and the patient is pale and unconscious. Sometimes the patient can answer questions put to him in a loud voice, but he usually becomes unconscious again. The pulse is weak. The pupils are commonly contracted, but sometimes dilated, and usually react to light and shade. The extremities are limp, muscular powers being entirely lost in many cases. The sphincters are commonly relaxed. This condition is known as the first stage of concussion and lasts a longer or shorter time, as the case may be. The second stage usually begins by restoration of the circulation. Pulse is full and skin warm. Frequently the patient vomits, and this straining stimulates the action of the heart, driving blood into brain and helping to re-

store the cerebral functions. Patient very frequently rallies after vomiting.

In the severe cases the patient appears in articulo mortis, for there is complete loss of all physical and nervous power ; the surface of the body is as cold as death, the pulse is hardly perceptible and intermittent, eyes glassy and pupils either contracted or dilated. Serious results can follow any severe attack of concussion. The mental powers may be permanently impaired and memory may be partly or wholly lost. Speech may become stuttering and indistinct. Impairment of vision and hearing commonly result. Epilepsy frequently follows. Impairment of nervous powers is a common sequela and shows itself in one way or another. Hippocrates had truly said that no injury to the head is too slight to be overlooked or too serious to be despaired of. The treatment is symptomatic and as a rule stimulating. I now relate a case which came under my observation.

On January 3, 1897, was called to attend Daniel F., aged seventeen years, who had been engaged in a prize fight with a colored lad, and was knocked out by an upper cut. The knock-out blow occurred about 11 o'clock, January 2d, when the parties interested fled, leaving the lad on a billiard table the rest of the night and the next day in an unconscious condition. I visited him at 10:30 P. M., January 3d; found him helpless and stunned. The only mark of violence was an ecchymosis under the right eye. Skin was cool, pulse 100 and intermittent, temperature 99°, respiration fifteen and labored; features somewhat pinched; pupils were normal.

Patient was completely unconscious, with stertorous breathing, and extremities were flaccid and surface cold. Treatment, stimulation and hot bottles.

January 4th.—Patient slightly improved; pulse, 110 and very weak; temperature, 99; respiration, 22. Gave spt. ammon. aromat. 10 drop doses every two hours and applied cold to head. In the evening found him still in a semi-unconscious condition, voiding urine and fæces involuntarily in bed; extremities still limp; patient does not recognize persons, but answers when asked questions in a loud tone of voice; took milk very fairly.

January 5th.—Condition about the same as last evening. Pulse variable, from 60 to 120, and intermittent; temperature 99 1-5; respiration 20. Gave tr. digitalis 3i, spt. ammon. aromat. 3ii, elixir calisæ ℥ii, sig. 3i every three hours. Ordered enema, which produced a good movement in the afternoon. Five P. M. patient was apparently moribund and the attempt was made to obtain his ante-mortem statement, which we failed to do; insomnia present and heart action very weak. Ordered quinine sulph. ℈ii, syr. yerba santa ℥ii 3i every three hours; salt baths, and as nourishment egg nog.

January 6th—Pulse, 100; temperature, 99⅘; respiration, 24. Heart action slightly improved. Intellect a little clearer. Loss of muscular power in extremities still continues. Slept about 3 hours. Partook well of nourishment, his food consisting of two eggs, beef tea and milk punch. Discontinued the quinine mixture and, as the patient was very restless, gave pot. bromid, 3i; tr. hyoscyami, 3ii; aquæ, 3ii, 3i every 2 or 3 hours.

January 7th—Patient better. Slept 6 hours, but after that was very restless. Pulse, 72 ; temperature, 99 ; respiration, 22. For the extreme restlessness gave spt. æther comp. 3ii; tr. hyoscyami, 3ii; aquæ, 3ii; 3i every two hours. At 4 30 P. M. patient was more easy and brain action better. Patient took nourishment well and can use the left leg and both arms quite fairly. Right leg still limp. Still voids urine and fæces in bed.

January 8th—Pulse, 64, and feeble; temperature, 98½; respiration, 24. Had a good night's rest. Recognition of persons somewhat better. right leg still flaccid and useless. Takes nourishment well. Discontinued spt. æther comp., etc., and gave tr. digitalis and quinine mixture, and 4.30 P. M. found pulse 76 and stronger. All other symptoms the same.

January 9th—Pulse, 62; temperature, 98½ ; respiration, 22. Slept well. Eats heartily. Recognition better. Mistakes one individual for another. Is very profane, which I am informed is unusual for him. Passes urine voluntarily now ; bowels being constipated ordered Rochelle salts. Discontinued quinine and tr. digitalis.

January 10th—Pulse, 70; temperature, 99 ; respiration, 22. Slept well. Takes all the nourishment we give him. Bowels not having moved ordered enema.

January 11th—Pulse, 68 ; temperature, 98⅘ ; respiration, 20. Bowels acted well. Mind clearer. Right leg still useless. Discovered an abscess over right ilium, which was lanced and discharged freely. Gave quinine mixture and eggnog.

January 12.—Pulse, 68 ; temperature, 98½ ; respiration, 20. Bowels moved very freely. Slept well. Is very clear in mind. Recognizes every one perfectly. Tongue clean.

January 13th—Pulse, 72 ; temperature 98½ ; respiration, 20. Sleeps well and takes plenty of nourishment. The abscess covers an immense area extending over the entire lumbar region and discharges ichorous pus in large quantities. Ordered large poultices ; quinine mixture and syr. ferri odid.

January 14th—Pulse, 68 ; temperature, 99 ; respiration, 20. Takes all nourishment well. Can use right leg much better. The abscess in back discharges very freely. Treatment the same. Patient continued to improve in this way up to January 20th, when I discharged him cured.

—A letter appeared recently in the London *Globe* which throws a deep shade of suspicion on the canned salmon trade of British Columbia. If all that the writer states is true, it is a matter for great wonder that cases of poisoning from the consumption of this article are not of more frequent occurrence. He makes the assertion that, owing to the mode of storing and cleaning, together with the high temperature during the canning season, and the filthy state of the river in which the fish is washed, the salmon are in a rotten and putrid state before being canned, and that, however bad the fish is, it is preserved. It is hardly safe, therefore, to purchase these goods at random.

DISINFECTION OF THE SICK ROOM AND OF CLOTHING.

By James Robie Wood, M. D., New York.

THE physician whose good fortune leads him among the wealthy has little need to consider economy for the sake of his patients; but he who, through necessity or choice, attends families of moderate or scanty means, finds expense a serious matter, especially as he is often compelled to supply what is needed from his own pocket.

In the disinfection of rooms, clothing, etc., slender purses must be considered, and more particularly in places far away from the merciful, generous and efficient aid of health boards, which of late years have removed immense responsibilities from medical men's shoulders; but unfortunately such ready assistance has often dwarfed the capacity of medical minds to invent means for meeting sudden emergencies. The frequent and imperative demands upon the intelligent and studious country practitioner to battle alone with unexpected and unusual accidents or phases of disease, develops or creates a manly strength of character which frequently makes him a power in the community where he resides. The ever present helps, in the shape of skilled practitioners, chemists, etc., debilitate certain qualities of the mind in the city physician, who through indolence or timidity leans too heavily upon the strong arms of medical or surgical brothers who are constantly within reach.

These remarks do not apply to all doctors, for there are men, both in city and country practice, who carry paper-edged brains to their work, and in such unfortunates life's grandest opportunities seldom increase their mental breadth. On the other hand, there are men who are mentally broad and noble under nearly all circumstances and influences.

In highly contagious diseases the physician must consider not only the disinfection of his patients and their surroundings, but also himself and his clothing. This is most important in localities where the scarcity of medical service necessitates simultaneous attendance upon contagious diseases and surgical or obstetrical cases. In cities, where medical help is abundant, the practice of visiting contagious diseases while having the care of obstetrical or surgical patients is on the border line of crime.

Of course all are aware of the advantage of having two rooms for the sick, so that one may be thoroughly cleaned, aired and disinfected at frequent intervals while the patient occupies the other, but as this is seldom convenient, or even possible, in houses of the poor other ways must be sought.

It is hardly worth while to speak of the furnishings of the sick room, such as tacked down carpets, woolen hangings, coverings, etc., as all physicians fully appreciate their danger in holding and transmitting disease, and the frequent possibility of their prolonging diphtheria, erysipelas and other similarly contagious diseases by constantly returning infection to the patient. Although all recognize the importance of removing such surroundings, yet when called to a contagious malady which has existed for several days the physician dreads the possibility of spreading contagion by lifting the dusty carpet; therefore he is often inclined to leave it untouched. This should not be while there are so many economical means of disinfection at hand.

Surface washing of carpets, before their removal, with an inflammable antiseptic, such as naphtha, is out of the question, being too perilous to consider for an instant.

There are several means of purification which may be applied to carpets, but not so conveniently to other woolen furnishings; these latter can be quickly and safely removed to the open air and sunlight of the yard or roof.

First let us dwell for a while upon resources that are within reach of those whose means are limited or who reside in secluded places where city conveniences are impossible to obtain or would be so delayed as to render them practically useless. The writer having had a long experience in the care of contagious and infectious medical and surgical diseases, such as diphtheria, erysipelas, typhoid fever, hospital gangrene, etc., treated in open tents during the late war, knows full well the value of abundant air and sunshine in diminishing mortality, therefore would place these before disinfection, but as occasions arise when all these benefits cannot be fully applied, antiseptics must be appealed to.

Being among the most fatal of contagious diseases, diphtheria and its disinfection will be chiefly considered in this paper.

The value and uses of chlorine is so well known that only one or two means of generating it will be mentioned, and then on account of its combination with another disinfecting gas.

Constant and careful fumigation in the presence of malignant diphtheria may be made not only comforting and curative to patients, but also decidedly protective to those who are compelled to be present.

Of course complete isolation of children and others who are not needed at the bedside is of the first importance.

Beginning with the appliances, which can be easily extemporized, it is well first to mention a simple and cheap process for the simultaneous generation of chlorine and sulphurous acid gases, and perfectly controllable, by which very small or very large amounts of invaluable disinfectants may be let loose in the air at will—and very ordinary intelligence is required to regulate their generation. According to the necessities of the case, mix a teaspoonful or much larger quantity of dry hyposulphite of soda, (which costs but a few cents per pound) with more or less of chlorate of potassa,* in a cup or dish; then, as needed, drop or pour strong hydrochloric acid on these combined chemicals, and immediately

* Do not keep them on hand *mixed*, for if rubbed together so as to make them convenient for use, an explosion might result; but there is no such danger if simply stirred together dry when used.

chlorine and sulphurous acid gases will be eliminated in combination.

When the diphtheritic membrane is extensive a moderate amount of these gases do not appear to annoy the patient even when quite near the ascending fumes. Very large amounts might give a sense of suffocation. Should the bedding, clothing and carpet be soiled by sputa or vomited matter they may be rapidly disinfected, after slightly cleansing, by placing a sufficient quantity of the chlorate of potassa and hyphosulphite of soda in a cup or dish near the infected material, and after adding the muriatic acid to the powder, quickly cover all with a tight, shallow box, so as to retain the gases, thus preventing suffocating fumes from reaching the patient and other persons present, and also concentrating the disinfecting vapors directly upon the carpet, clothing, etc. By this means the whole carpet may be purified, moving the box slowly over every foot of the floor, occasionally renewing the chemicals.

A moderate fumigation near the patient with this combination may be repeated as often as deemed necessary, and will prove very beneficial in many cases. Burning sulphur in the sick-room would be difficult or impossible on account of its prolonged suffocating fumes, which cannot always be stopped at will.

The use of carbolic acid and creosote for fumigation is convenient and very manageable. The cresoline vaporizer may be used; but a small amount of creosote and carbolic acid combined with a few crystals of menthol and thymol placed in a small tin pail and hung some distance above a gas jet or lamp has proved of considerable value in several maladies besides diphtheria.

Another extemporized apparatus has been used by the writer, and which may be resorted to until a more efficient one can be procured. For a temporary expedient it will often assist persons far removed from city conveniences.

Three or four feet of extremely fine platinum wire may be kept in the physician's medical bag with two or three ounces of *wood alcohol*. Upon sudden demands for antiseptic vapors, a few strands of loose cotton cord may be placed in a low bottle, if lamp wicking or an alcohol lamp cannot be obtained; the platinum wire is made into a coil by winding it backward and forward closely around a pencil or some larger object, according to the size of the wick; then the ends are inserted into the wick. Light the lamp, and as soon as the platinum wire reaches a red heat, extinguish the *flame*, and if it has been properly placed above the wick the wire coil will continue to glow, sometimes for hours, and constantly generate formaldehyde gas, which can be recognized at once by the peculiar odor and the tingling sensation in the nose when near the lamp.

Of late several useful lamps have been contrived for the generation of this powerful disinfectant, formalin, which has proved to be a most formidable adversary of dangerous microbes. Some of these have a platinum hood instead of a coil. The one which the writer has used very largely is not a generator, but more properly a volatilizer, of the formalin, which is made in tablets. This lamp has proved very efficient and easily controlled. The most feeble vapor up to an immense elimination of formalin fumes can be had at will, as the emergency demands.

In a case of excedingly malignant and prolonged diphtheria, one of these Schering and Glätz's formalin lamps was of the utmost value in protecting the household, among them being very young children who were near the patient, crowded in a small and badly ventilated tenement apartment. By keeping one or two formalin tablets in the upper receptacle of the lamp a gentle and constant antiseptic vapor was diffused throughout the sick room. At times, the windows being wide open, a few tablets were put in the lower receptacle, so that intense fumes filled the room, causing intense stringing sensations in the noses of those present, and producing profuse lachrymation. While formalin is destructive to microbes and not to higher animal life, yet it is not wise to deeply and suddenly inhale a large volume of its vapor directly over the lamp, for it might produce a momentarily unpleasant sense of suffocation, and in some persons, loss of voice for a few minutes. A most valuable application of this lamp is the disinfection of the clothing of physicians and others who have attended contagious diseases. Hang such clothing in a tight closet or box and place the lamp beneath them with nine or more tablets in the lower brass cup and let the fumigation go on for some hours—adding more tablets in some cases. The lamp may also be used under a box as before described for disinfecting carpets.

Since writing the above, having been suddenly called away from the city to a patient suffering with a severe attack of influenza, the use of formalin vapor suggested itself; but as no formalin lamp could be obtained, formalin tablets were laid upon a piece of bent tin, made narrow so as not to obstruct the draft, which was placed on top of the chimney of an ordinary kerosene lamp. This simple device behaved admirably, the volume of the vapor being easily increased or diminished by raising or lowering the wick. The patient was markedly benefited within a few hours by constant inhalation of the fumes which filled the room. In violent influenza, as in diphtheria, the sharp tingling in the nose is not so evident to the patient as to others. It is to be regretted that cheap preparations cannot be procured for general disinfection. Cheap solutions, sprayed or vaporized, may possibly answer every purpose, but with these the writer's personal experience has been limited.

Dr. Hare says that when a patient has Bright's disease and requires for any purpose an anæsthetic, chloroform should be used, as so little is necessary that the kidneys are not irritated.

Manichon, in the *Journal de Médicine*, makes a strong plea for recognition of cancer as a hereditary disease. In twenty-three families which came under his observation there were sixty-nine cases. In eleven families it was transmitted exclusively in the male line; in five in the female, exclusively, and in the remaining seven in both. He also contends that the special form of cancer is hereditary.

POLYMORPHISM OF TUBERCULOSIS AND POLYMORPHOUS MICROBIS IN CHRONIC DISEASES.

JAMES A. CARMICHAEL, M.D., NEW YORK.

BACTERIOLOGISTS and clinicians have recently admitted that the bacillus of Koch was the only pathognomonic representative of tuberculosis. Certain authors, *viz.*, Spina, Toussaint, Klebs, Malassey and Vignal, Chautemesse, Graucher and Ledroux, Nocard and Roux, Cornil and Babè, have signalized other forms, but the doctrine of monomorphism has been the only one accepted But the persevering researches of Aubeau and Golasz have demonstrated that the micro-organism of tuberculosis is in reality polymorphous. In July, 1893, in a communication made to the "Third Congress of Tuberculosis in Man and Animals," the polymorphism of tuberculosis was affirmed in the following terms: The micro-organism was found, first, in the form zoogloœs; second, of cocco-bacteriæ; third, of the coccothrix; fourth, of the bacillus; fifth, of filaments—five principal forms. Guinea pigs were inoculated with 6 to 10 drops of blood containing micrococci, cocco-bacteria or zoogloœs, without a trace of bacilli, and the inoculation always determined general tuberculosis. The diagnosis of tuberculosis has been constantly made from the single fact of the presence of micrococi or zoogloœs in the blood or the sperm, and has always been confirmed, and this constant verification of diagnosis does not permit the clinician to reglect the indications which occur from their presence even in the entire absence of bacilli.

The forms above indicated may be found either isolated or associated in local tuberculosis. Most generally they are associated ; the form seems to depend principally upon the medium in which the micro-organism is developed, and the presence or absence of air plays an important part in the morphology. Thus in cold and deep-seated abscesses, which are not exposed to the air, zoogloœic tuberculosis is constantly found pure or nearly so. On the contrary, in the expectorations, the bacillar form is always found equally pure, or nearly so, although in many examinations of the expectoration filaments are occasionally found whose length exceeds that of Koch's bacillus ten times, but the reaction of which in coloring matter is identically the same. In intestinal tuberculosis the bacillar form is seen, and it might be asked if the bacillus were not carried into the digestive tube by deglutition of the expectoration, but they are found in sections of tubercular lesions of the intestine. In cutaneous or subcutaneous tubercular abscesses and in glandular tuberculosis the zoogloœic form is found, also bacilli and filaments. As respects the process of coloration employed by Golasz, owing to slight but indispensable modifications of that which is generally adopted, it prevents the decoloration of a great number of cocco-bacteriæ and zoogloœs, and consequently these forms are easily and constantly preserved.

The preparations are colored, whether blood or sperm, with Ziehl's phenic fuchsine, and subjected to a temperature of 60° for two hours, then washed in alcohol for a few seconds, afterward in water in full stream, so as to leave no alcohol upon the preparation, as it has to be submitted to the action of nitric acid 10 to 100. After which repeat the bathing in distilled water until the blood or sperm shows only a scarcely visible rose coloration, then color as is usual with a weak solution of methylene blue. It is by not allowing the alcohol to come in contact with the nitric acid, and by employing a weak instead of a strong solution of the acid, that the color of the micrococci and zoogloœs is preserved. These forms appear in the preparation of a light red, while the bacilli are of a deep red. When there are staphylococci present, they are colored blue, so that it is impossible to confound the cocothrix—bâtonnets granulés, granulated little cylinders—of tuberculosis with a chain of streptococci. By using these precautions, the micro-organisms are easily found in the blood when the tubercular lesion involves a very vascular organ, viz., tuberculosis of the testicle, of the intestine, or Pott's disease in the region of the atlas or axis. It is important to remark that *in the blood*, the forms of the zoogloœs, micrococci and cocco-bacteria are particularly found, the filaments are not met with there, perfect and distinctly colored living bacilli are extremely rare in the blood. In the sperm, the zoogloœs, cocco-bacterial and bacillar forms are found.

Bacteriological examination of the sperm is more easy than that of the blood. Micro-organisms—zoolgœs, cocci and bacilli—are found in the sperm of subjects whose blood, repeatedly examined, contained no microbic elements. Of course this does not apply to subjects of genital tuberculosis; moreover, the micro-organisms of the blood and of the sperm present notable differences. Indeed, the blood is not a medium of culture, but only a carrier of microbes which it meets in its course. The sperm, on the contrary, seems to be an ideal medium for the evolution of micro-organisms of certain chronic diseases; they merely pass along in the blood, but in the sperm they live. The presence of the microbes in the blood signifies that there is in some part of the organism a tubercular locality which pours its products into the torrent of the circulation. This permits an anticipatory diagnosis of tuberculosis before the appearance of any lesion that can be determined by clinical investigation. In this way diagnoses totally unforeseen may be made, and which are confirmed by time, in subjects presenting no other morbid phenomena than anæmia or digestive troubles. The presence of microbes in the blood also facilitates remarkably a differential diagnosis in doubtful cases, but their presence in the sperm has a signification of the highest importance, because it reveals clearly the mystery of microbic heredity and demonstrates the transmission of the microbe from father to son, not only of tuberculosis, but of other microbic diseases.

The infected subject inoculates the ovule at the same time that he fecundates it. The great importance of the recognition of polymorphism

in view of the diagnosis of tubercular lesions, may be readily appreciated, hence the value of its discussion in the "Congress for the study of tuberculosis in man and animals," from which we extract the following :

M. Verneuil, President of the Congress, said : The question is put before the Congress of the anticipatory diagnosis of tuberculosis before there has been any manifestation, or in case of relapse after apparent cure. It is clear that, whatever may be the interpretation of the facts observed by M. Aubean, they prove the value from a diagnostic point of view of a practical examination of all human secretions. In effect, though clinical examination may not reveal a lesion of the genital apparatus in the patient, yet the bacteriology of the sperm indicates that lesions do exist. There are two methods of investigation ; one is the means furnished by tuberculin to discover tuberculosis, but we know that this process is not without inconvenience in man. The other consists of a very careful examination of the secretions and other fluids of the economy. The second method is greatly preferable to the first, as it entails no danger, and hence we urge M. Aubean to pursue diligently his researches in this direction.

Fischel and Coppen Jones think that the parasites of the tuberculosis should be ranged by the side of actinomycoses because of the mycelium formed by the tubercular bacillus when it is deprived of air. Ramifications and filaments can be seen detaching themselves at nearly a right angle from the vacuoles and metachromatic corpuscles that resemble the description given of actinomycosis by Babes. These are veritable ramifications, and not the false that occur in the cladothrices. Hence Coppen Jones' opinion is to class the parasite of tuberculosis with the group of actinomycosis he observed in the tuberculous sputa from putrid caverns, hyaline masses or crosses of actinomycosis. The analogy of the latter with the parasite of tuberculosis is much more legitimate than those produced by cold abscess, pulmonary caverns or osseous lesions, and subjects of actinomycosis reach more than all others, except the leprous, under the influence of Koch's tuberculin. Coppen Jones has not observed the relations of the crosses with the bacilli of tuberculosis; he affirms that there is no relation, and that the crosses are the result of an inorganic secretion. Aubean declares that from experiments, and the different methods of coloration employed by him, that the crosses of tuberculosis are only a secretion by which they closely resemble actinomycosis. Babes has shown that they constitute a sort of capsule around the ends of the filaments, and seem to play the part of protection for the colony of actinomycosis. Babes has also established that the filaments of actinomycosis are colored by the method of Gram-Weigert, in blue violet, while the crosses are colored red by analined safranine, following the action of Lugol's solution. The capsules can detach themselves from the colony and be isolated. From researches among colonies of tubercular bacilli their identity with the forms of actinomycosis is manifest, and can only be distinguished by Ehrlich's characteristic coloration from the filaments of the parasite of tuberculosis. The principal object of this communication seems to be to establish the analogy of the micro-organisms of tuberculosis and actinomycosis. If that be so, a capital fact, from the bacteriological point of view, has been reached in polymorphism. In this respect the work of Babes and Levaditi is confirmatory, and completely upsets the ideas of those who adopt the conclusions of Koch upon the microbiology of tuberculosis. The progress of bacteriology also offers many other surprises to those who are devoted to the work of the laboratory. There is great difference between the organic media of disease and the media of culture employed by bacteriologists in the profession. The organic media of man are liquid or constantly impregnated with fluid. The evolution of microbes, capable of development in the human organism, if one wishes to follow it in all its phases, should be studied in the analogous media of culture; that is to say, in liquids constantly impregnated with appropriate liquids—as respects tuberculosis, the error of Koch was in a great measure fatal, as he made his cultures in gelose, and what is true of tuberculosis is equally true of many other microbes. According to Aubean and Golass, all microbic diseases of chronic evolution are due to the action of polymorphous microbes of the family cladothriches or analogous families. In order to secure these polymorphous forms, they should be studied in a liquid medium, as is done by Van Tieghem for the bacillus amylobacter, and by the botanists Cienkowski, Prazmowoski, Naegeli, de Bary and Cohn for other micro-organisms, and by Golass for the cladothrix, which he invariably finds in syphilis. The bacillus amylobachter of the family cladothrix has been found by Van Tieghem in the form of a coco-bacteriæ (spores), of bacilli and of filaments. The microbes of diseases of chronic evolution, *viz.*, syphilis, tuberculosis, lepra, scrofula and malaria, belonging to the family cladothrix or analogous families, are represented by exactly the same forms when studied in liquid media or in the human organism. The doctrine of mono-morphism has caused the same errors in syphilis as in tuberculosis. Many authors, notably Lustgarten, have described microbic forms in syphilis. But as the forms described by various authors differed completely from each other, and as they were not constantly found in syphilitic lesions it was concluded, too precipitately, that the observers were in error In reality, nearly all the observations were valuable, but they only related to one of the different microbic forms of syphilis. In order to observe them all they should be cultivated in an appropriate medium, as was done by Golass, and his pure culture revealed cocco-bacteria bacilli, filaments and forms in involution, which he found isolated or associated, according to the period of the disease, and to its having been treated or not, in a human syphilitic organism. When the idea of the polymorphism of the micro-organisms of diseases of

chronic evolution shall have taken its place in science, new general ideas, synthetic and luminous, will illuminate clinical history. They may be enumerated as follows: 1st. Microbic diseases of chronic evolution, such as tuberculosis, lepra, scrofula, syphilis and malaria are due to the evolution of polymorphous microbes of the family cladothrix or analogous families. 2d. Different forms of the polypmorphous microbe are found in the human organism, isolated or associated according to different circumstances, among which may be cited the age of the disease (spores in a latent state), and the influence of treatment. 3d. It is only necessary to find in the organism one of the forms of the polymorphus microbes by the action of specific coloring to establish a diagnosis.

SUN-HEATED SAND AS A THERAPEUTIC MEASURE.

By W. Thornton Parker, M. D., Groveland, Mass.

ARENATION is a term used to signify the employment of the sand bath therapeutically. It has its origin in the word "arena," which is defined to be the enclosed space which was found in the center of all Roman amphitheatres in which exhibitions were held, and which was commonly strewn with sand.

The value of the sand-bath has been known for many generations, and although frequently employed by the laity in one way and another, does not receive the professional attention which it deserves.

Generally speaking the temperature of such baths is given at 120° or 130° Fahrenheit, and this application of hot sand as a remedy has frequently resulted in alleviation of pain, particularly in rheumatism, gout, and in the pains following la grippe.

In Dr. R. Palmer Howard's article on the treatment of rheumatism in "Pepper's System of Medicine," he very truly states that "the local treatment (rheumatism) is of equal importance with the general treatment, and it is not unfrequently more effective in restoring the functions of the articulations."

In Dr. Anderson's work on the "Mineral Springs of California," he refers to the value of hot mud baths as follows: "A mud bath can be endured at a much higher temperature than water, on account of its low conducting power of heat."

The baths are stimulating to the skin, promoting secretion and excretion, and are much extolled in the treatment of obstinate joint affections, of rheumatic, gouty or syphilitic origin. In chronic hypertrophy of the liver and the spleen, inflammation of the pelvic organ, kidney and bladder troubles, the writer has witnessed decided improvement.

Dr. Anderson states that "the temperature may be taken from 100° to 200° Fahr. with the same precautions employed in water bathing. For a partial bath for hand, foot or knee the mud promises every advantage. For chronic rheumatism there is no better treatment instituted anywhere than these sulphurous, saline hot mud baths, together with the proper internal treatment."

These facts I have repeatedly verified at the famous Hot Springs of Los Vegas, New Mexico, concerning which I contributed an article in the *Dietetic and Hygienic Gazette*. These mud baths, either in California, New Mexico or elsewhere, are generally similar to the celebrated peat baths of Franzensbad, Bohemia.

What we have quoted concerning the mud-bath is applicable to the hot sand bath. The use of the hot sand of the sea-shore is to be recommended in almost all these forms of diseases to which allusion has already been made.

All along our New England coast in summer this can be carried out, and even in an altitude as high as Newport, R. I., in the winter months, patients can sit upon the hot sand and derive benefit from so doing.

Generally speaking, the temperature of the the sand is about 20° or more higher than the temperature of the atmosphere.

The surface sand which has already become thoroughly dry can be swept about and upon the body. Patients can take the sun and sand bath combined.

In winter artificial heat can be employed, so that the bath need not be restricted to the summer time.

The value of the sun heated sand bath in the treatment of wasting diseases in children is very great. The patient should be directed to change his position and location every ten or fifteen minutes, and the bath should be continued for the space of two or three hours. The ordinary bathing suit is the best article of apparel in which to take this bath.

SERUM IN TUBERCULOSIS.

By A. G. Deardorff, M. D., San Francisco, Cal.

I BEGAN using Paquin's anti-tubercle serum in October, 1895, treating three cases during the winter with good success, one case going to his work after two months' treatment; another going East after two or three months, greatly improved; a third case, improving rapidly after one month, went directly to St. Louis, taking treatment there, and through her friends I hear she is entirely well after six or seven months' treatment. This last case was sent to California by a Chicago physician, and he thought the case would terminate fatally before twelve months. I would say in my cases the microscope is used to determine the character of the disease and to give a positive diagnosis.

In December, 1896, Mrs. G. applied to me for treatment of left lung; a burning sensation below clavicle; some night sweats; loss of appetite; loss of weight. Her average weight was about 125, but at that time 115. Microscope showed great quantities of tubercle bacilli. I began treatment at once, had considerable trouble with irritation

of the skin and rash at end of second week. After this had no trouble. This was a case of incipient tuberculosis; mother had died with tuberculosis. She at once began to improve, and after two and a half months' treatment she had gained in weight from 115 to 135 pounds, and has been absolutely well to this time, July 21st. She is wonderfully pleased at the result and her good health.

On March 8, 1897, I began treating young C., age ten years, whose mother had died of phthisis two months before. He had been coughing and feeling ill for three months. Of mornings he had a profuse expectoration full of tubercle germs, as shown by the microscope. I treated him forty days and had the satisfaction of seeing this young lad brought back to health with a gain of eight pounds, a growth of almost an inch in height and a complete cessation of all cough and expectoration, and on auscultation and percussion no abnormal sound can be found. He is well. This was also a case of incipiency.

Mrs. C. applied to me for treatment last November. Was in second stage; small cavity in upper lobe of right lung. Had a severe hemorrhage just before treatment, followed by a second in two weeks; was very much emaciated; weight 105; usual weight 125. Began with ten drops daily, but had to reduce it to five, six, seven, etc., as it had a severe action and prostrating effect on her. When she came to me, pulse 125; temperature 101 to 103. The third week she was fast improving and gained half pound per day, till her weight went up to 118 and 120. I treated her two months, when she returned to her home 200 miles from me. I advised her to use it per rectum, which she did, but did not act satisfactorily, exciting her nervous system entirely too much. She took a severe cold and had a relapse for a time, when she returned to me and again improved. I would say, I can use but twenty drops maximum dose on her. She is yet under my treatment and is doing finely. This was a bad case, and under the old treatment would no doubt have succumbed before this. I have three other cases of incipient trouble that are fast improving, one in third stage with cavities, who is doing well, but I cannot report anything special yet with her. She has had severe hemorrhages for years; been afflicted for twenty-five years. There are a number of treatments for tuberculosis, but I like the reasoning of Dr. Paquin and I know he is on the right track. The results show it.

On the Use and Abuse of Ergot in Obstetrics.—By T. More Madden, M.D., F.R.C.S.E., Obstetric Physician and Gynæcologist, Mater Misericordiæ Hospital, Dublin. The reaction against the former abuse of ergot in obstetrics has apparently been now carried to an extreme and undue excess, and has led to its desuetude in many instances wherein this ecbolic might be most advantageously employed. The writer therefore submits some observations with regard to the circumstances under which long clinical experience has convinced him that ergot, or its preparations, may and should be given in midwifery practice, and the methods of its administration, together with a summary of the results to mother and child in 150 of the instances in which, in his practice, this drug was thus resorted to.

Circumstances Under Which Ergot May Be Employed in Midwifery Practice.—Judging from the recent literature of this subject, it may not be superfluous to premise that to use ergot or any of its preparations safely and effectively during parturition the presentation should as a rule be cranial; that there should be no disproportion between the fœtus and the maternal parts, nor any obstacle to deliverance in the genital tract; that the os uteri, if not previously fully dilated, should at least be sufficiently dilatable to allow speedy delivery by the forceps whenever that may become necessary; and that a preparation of ergot should be selected and a dose given calculated to produce the required ecbolic effect.

Under such conditions ergot may be given with utility when required either before, during, or after the second stage of labor, viz.: First, in some instances (*a*) of delay from inertia of the uterus before the full dilatation of a dilatable os, and in which there is any evident danger to either mother or child from protraction of labor; Secondly, it may be administered during the second stage (*b*) in nearly every case of long delay from inertia wherein the presentation is natural and the delivery not otherwise impeded, or in which (*c*) there is then either reason to apprehend the probability of subsequent hemorrhage, or any such complication as may call for its use; Thirdly, during the last stage of labor this ecbolic may be employed (*d*) to hasten the expulsion of the placenta when delayed by inertia, or (*e*) for the arrest of hemorrhage. Fourthly, after labor ergot may be resorted to either immediately (*f*) to prevent or check flooding, or subsequently; (*g*) to produce such tonic or permanent contraction as will effectually seal up the uterine vessels, and so lessen the liability to subsequent septic invasion, or (*h*) to effect the expulsion of clots and so arrest afterpains; Fifthly, and lastly (*i*), to stimulate such contraction as may quicken or secure the process of involution after parturition.

Method of Employing Ergot.—In such cases this ecbolic, if given at all, and whether ergot, ergotine, ergole, or any other of its preparations be selected, should be employed, not in the repeated small and utterly insufficient quantities that have been recommended by some modern writers, but should be administered only once during labor, and then in such a bold, full and effective dosage as may be likely to excite speedy and permanent or tonic uterine contractibility. With this view, in my own practice, I therefore generally use the fresh liquid extract of ergot of the Pharmacopœia, of which I commonly give a couple of drachms, or some cases three drachms, by the mouth, together with a drachm by deep hypodermic injection in the gluteal region at the same time.

Sunlight as a Disinfectant.—Dr. Westbrook, in a paper read at the annual meeting of the British Medical Association, states as follows:

The effect of sunlight upon the cholera vibrio and other bacilli varies according to the amount of air present. Thus sunlight is a destructive agent to micro-organisms when air is freely present. When air is excluded, the growth of the organisms is stimulated by the heat, but their virulence is not increased.

A Young Mother.—Dr. C. W. Cleaves, Wytheville, Va., reports in the *Medical Record* that Annie H—— was born in Bland County July, 15, 1885, and September 10, 1895, she was delivered of a well-formed child weighing five pounds. She was only ten years and nearly two months old. The girl has no developments of a woman, although she has menstruated regularly since she was five years old. The labor was a short and eventful one, and two hours afterward the child-mother wanted to get up and dress and would have done so had she been permitted.

There was no development of the mammæ or secretion of milk. The babe was nourished through its short existence (as it only lived a week) by its grandmother, who has a child only a few months old. The parents of this child, Mr. and Mrs. J. P. H——, are prosperous, intelligent and worthy people, and there is no doubt of their child's age. The child is now well and plays about with the other children as if nothing unusual had happened.

THE SPECIFIC ACTION OF QUININE IN MALARIA.

Dr. E. C. Register, editor of the Charlotte *Medical Journal*, read a paper with this title before the North Carolina Medical Society.

After many years of study, both clinical and microscopical, the doctor arrives at the following conclusion in reference to the specific action of quinine in the continued forms of malarial fever. He says a malarial fever without complications will subside after the plasmodia of malaria disappears from the blood; that we have in quinine the means to completely eradicate malarial poison from the body; that malarial fever occurring in a previously healthy subject, and in the central United States, if at once recognized and properly treated, never ends in death; that it is speedily curable, never continues, provided the nature of the disease be recognized and appropriate treatment employed.

Dr. Register has made microscopical examinations of the blood of several hundred patients suffering with remittent malarial fever, and has studied closely and thoroughly the crescentic and ring-shaped bodies which he says are the forms of the parasite which is responsible for the continued types of this fever, and he finds that the reason quinine does not always affect these irregular forms of the poison is on account of the usual defects in its administration. He contends that the drug is very imperfectly absorbed when given by the stomach, and when the patient has a temperature of over 102°. He says that in cases of continued malarial fever, if distinct and well-marked intermissions of the fever are produced artificially by the use of antipyrine, antifebrine and phenacetine, the crescentic and ring-shaped bodies will disappear after the administration of quinine as quickly as the spherical bodies that are found in an ordinary case of intermittent fever. In reference to the belief that the forms of the parasite that inhabit the blood cells are not acted on by quinine, he says: "There is no doubt in my mind that this belief is not erroneous. Besides my own observations, I have been able to collect the opinions of thirty-two authors touching upon this point, and twenty eight out of the thirty-two believe that the endo-globular or intra-corpuscular forms are not, on this account, the cause of an uncontrollable fever, and that its proximity to the blood cell does not in any way protect it from the action of quinine."—*St. Louis Medical Era*

Syphilis and Paresis.—In a paper on hereditary syphilis and general paresis in the insane, by Dr. Williams, occurs the following most significant passage:

"Practically 75 per cent. of all cases of general paralysis exhibit proof of primarily syphilic infection." The history of all cases is "the typical man of the world," ambitious, fond of society and high living, a light sleeper, and a heavy drinker, then come delusions and well-marked paresis. Four cases are noted where syphilitic teeth were prominent, although no history of syphilis could be obtained. Each one had used spirits freely. The pathological conditions in chronic inebriety, syphilis and paresis are all alike. The thickened membranes and meningeal changes are the same. The neurosis which predisposes to insanity, paresis, or inebriety may be of syphilitic origin. A history of using alcohol exists in all cases of paresis, and it is significant of contributing causes not yet studied.—*Quarterly Journal of Inebriety.*

R. Q. Grant says that violent barometric changes and crime are coincident. When the barometer is up the world is cheerful, maladies allow the sufferer to enjoy convalescence, and even pickpockets and murderers think seriously of earning an honest living. When the barometer is depressed melancholia prevails, people who are ill are more likely to die, men contemplate suicide in order to find relief, and the murderer loads his gun. Fair weather, crime less; low barometer, a crop of evils. Well, there may be something in it, for now I think of it a cold easterly storm always brings on my rheumatism, and I do feel like setting the house on fire or blowing some one up with dynamite. Is it all the fault of the barometer or—isn't it?—*New York Herald.*

Eugene Field, in one of his delicious poems, represents a gray-haired grandfather soliloquizing over an incident which recalled vividly his own early parental life in words filled with tears:

When Willie was a little boy
  Not more than five or six,
Right constantly he did annoy
  His mother with his tricks.
Yet not a picayune cared I
  For what he did or said,
Unless, as happened frequently,
  The rascal wet the bed.

Closely he cuddled up to me
  And put his hands in mine,
Till all at once I seemed to be
  Afloat in seas of brine.
Sabean odors clogged the air,
  And filled my soul with dread,
Yet I could only grin and bear
  When Willie wet the bed.

'Tis many times that rascal has
  Soaked all the bed clothes through,
Whereat I'd feebly light the gas
  And wonder what to do.
Yet there he lay, so peaceful-like;
  God bless his curly head;
I quite forgave the little tyke
  For wetting of the bed.

Ah me, those happy days have flown,
  My boy's a father, too,
And little Willies of his own
  Do what he used to do.
And I, ah, all that's left for me
  Are dreams of pleasure fled;
My life's not what it used to be
  When Willie wet the bed!

A New Sign of Pyosalpinx.—In the *New York Medical Journal*, October 26, 1895, p. 531, there is noted the fact that in every case of pyosalpinx observed by the writer there had been present an acute pain at the level of the hepatic area. Six cases are quoted as demonstrating this fact.

Lip-Reading for Deaf Mutes by Aid of Photographs.—Deaf mutes are taught to understand spoken language by watching the movements of the lips and facial muscles. Dr. Gutzmann has recently secured a series of photographs showing these movements and mounted them in a gyroscope, when the words spoken were immediately recognized by the mutes. The *Deutsche Med. Woch.* devotes considerable space to Gutzmann's success, which is sure to prove of the greatest assistance in teaching the deaf to understand spoken words.

The Formation of Lactic Acid in the Stomach.—Rosenheim and Richter (*Zeitschrift Klin. Med.*, 1895) dispute the claim made by Boas, that lactic acid fermentation of the stomach contents is a pathognomonic sign of cancer, or nearly such. They have re-examined the whole subject, making a careful bacteriological investigation of the contents of the stomachs of twelve individuals, some perfectly well, others affected with cancerous diseases, some with cancer of the stomach and some with disease in other forms. In all these cases they have been able to isolate a certain number of organisms, which possess, to a greater or less degree, the power of forming lactic acid with sugar. The theory of the specific character of lactic acid fermentation of cancer is thus demolished.

Investigators have also determined that the existence of the so called specific cancerous germs cannot be sustained, as the same germs are found in the various forms of disordered digestion, and even in some cases in which free hydrochloric acid is present.

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ROBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D.

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THE YELLOW FEVER MICROBE.

THE Uruguay Legislature has recently conferred on Dr. Sanarelli, the discoverer of the yellow fever microbe, a free citizenship and voted a reward of $10, 00. It is probable also that the prizes offered by the Brazilian Government for this discovery, of $20,000 in two parts, one to the author of the work demonstrating the existence of the bacillus of yellow fever and the surest and readiest means of recognition, and the other to the discoverer of an effective treatment of the disease, will also go to the distinguished scientist, Dr. Sanarelli.

Prof. Sanarelli is at the head of the Institute of Experimental Hygiene in Montevideo. Since his appointment to that position, a year and a half ago, he has devoted his attention chiefly to the study of yellow fever. His "material" was obtained on Flores Island, where a hospital is maintained for the reception of persons sick with that disease who arrive from Brazilian ports. The advantages thus secured were exceptional, and the professor soon became convinced, from watching the development of cases, that the mischief was indeed, as had long been suspected, the work of a microbe.

So he set about the business of catching that microbe, and in this task he has been successful. He has reproduced true yellow fever in various animals by inoculating them with the germ in question. The bacteria is a tiny rod with rounded ends. It is found in the blood and tissues, and not in the gastro-intestinal cavity, where other seekers have looked for it. Sanarelli says it is taken into the body with the breath. In the first stage of the malady it multiplies very slowly, producing a specific poison so powerful that a very small quantity will develop in a human being a grave case of yellow fever. But this is by no means all. The body of a yellow fever patient is always invaded by a great variety of species of bacteria which have nothing to do with the production of the disease proper. This is one reason why experimenters have not succeeded hitherto in isolating the real and responsible germ; the mixture was too puzzling. At all events, under these morbid conditions, some of the ordinarily harmless species become harmful and cause destructive infections of the liver and other organs. This is particularly true of a common bacterium found normally in the intestines of healthy persons, and called the bacillus coil, which during the progress of yellow fever is apt to cause blood poisoning.

Prof. Sanarelli says that one of the best methods of studying the germs of yellow fever is to take a small portion of the liver of a fresh cadaver and keep it in a stove for twelve hours, to facilitate the multiplication of the microbes. Then, with the help of a miscroscope, they may be observed in immense numbers in the capillary blood vessels. Animals inoculated with them soon die, exhibiting all the more familiar symptoms of the dreaded complaint.

This yellow fever germ seems to be remarkably electric; it will kill almost any mammal, though birds resist it. It kills white mice in five days, causing general blood poison with fatty degeneration of the liver. Guinea pigs succumb in eight to twelve days. Rabbits are more sensitive, dying in two to four days. Goats and sheep are quick victims, poisoning by repression of urine and fatty alteration of the liver being noticeable symptoms. Monkeys suffer even more seriously than man from liver degeneration. But the animal found most suitable for such experimentation is the dog, the symptoms induced being practically the same as those of yellow fever in human beings.

The first marked symptom in the development of experimental yellow fever in the dogs is vomiting, which occurs as soon as the virus has got into the circulation, and continues a long time, as if the animal were under the influence of a strong emetic. After the vomiting comes intestinal hemorrhage. An autopsy shows degeneration of the liver and other lesions resembling those observed in human beings after death from yellow fever. Some of the effects are exactly such as would be produced by an irritant poison, like arsenic or cyanide of potassium.

The microbe of yellow fever, circulating in the blood, has the specific effect of an emetic, causing the vomiting. The so-called "black vomit"

is blood which escapes into the stomach through the broken down mucous membrane.

Dr. Sanarelli claims that the germ of yellow fever having been found, it is a mere matter of detail to manufacture an antitoxin that will cure the disease, or at least antagonize its effect to a great extent. Horses will be inoculated with the "culture" of the microbes in very small doses, the latter being gradually increased until each animal thus treated is "immunized," its blood being thoroughly impregnated. Then a portion of the blood will be drawn by venesection into a suitable receptacle and permitted to settle. The red part, being heavy, falls to the bottom of the vessel, and the watery portion, or "serum," is taken from the top. This serum is the yellow fever anti-toxin, destined to save millions of lives and in effect to purify the world of a curse hardly less dreadful than the Asiatic cholera.

Dr. D. H. Geddings, of the bacteriological departments of the Marine Hospital, has brought from Berlin a consignment of the yellow fever germs in the original package put up by the discoverer, Prof. Sanarelli, of Montevideo. Under the direction of Surgeon-General Wyman these germs will be put to a thorough test in the laboratory of the Marine Hospital, Washington, and the results watched with the most minute scrutiny by some of the ablest bacteriological experts in the world. The result of their investigations and those of other scientists will be looked for with the utmost interest.

CANCER AND TRAUMA.

AN interesting and suggestive paper was read before the Congress of Internal Medicine, which has recently closed its session in Berlin, by Dr. I. Boas, on "Traumatic Intestinal Carcinoma, with Especial Reference to Accidental Insurance." The speaker thought that a carcinomal may remain latent for years until an accidental circumstance, among others a trauma, may call forth an active cell proliferation. He also believes that a cancer may retrograde, for at autopsies cancers of the stomach have been casually observed in persons who during life never had stomach disturbances. From personal observations and deductions arrived at from general considerations, Boas draws the important practical conclusion that in accident insurance traumatism may be accepted as a cause for cancer.

A case occurred at the General Hospital, Fishkill Landing, recently, which demonstrates the truth of the statement that cancer of the stomach may occur without the patient ever having been conscious of any disturbance of that organ. A young woman in apparently perfect health, who had never complained of any serious illness, started from Rhinebeck, a few miles above Poughkeepsie, for New York. As the train left for the latter place she was noticed to be in intense agony from pain in the stomach and bowels. Her condition was such that in a half hour, when the train reached Fishkill, an ambulance was called and she was removed to the hospital. This was about six o'clock in the evening. Dr. I. E. Moith, the President of the hospital, and other members of the medical staff, were, some of them, in constant attendance until she died the next day at four o'clock, less than twenty-four hours after the attack. When first seen she was in great agony and almost in a state of collapse; the pulse was rapid and faint, the whole body cold and drenched in icy perspirations and the respirations forty to the minute. As the hours passed the evidences of peritonitis and pneumonia, involving both lungs with great tympanitis, became more and more apparent. A few hours before her death all pain ceased. The autopsy which was held on the following day showed severe peritonitis, active pneumonia of both lungs, and a perforation in the stomach through which a pencil could be passed.

The cause of death was apparent. A carcinomatous ulcer, caused probably by a blow or some slight injury to the stomach, months, or even years, before, so slight as to produce only passing notice and followed by no unpleasant symptoms, had evidently been the foundation for a proliferation of cancer cells, developing a carcinomatous ulcer which, without pain or gastric disturbance, had slowly eaten its way through the wall of the stomach until the perforation was complete and the abdominal cavity suddenly flooded with the contents of the stomach, producing violent spasmodic action, acute inflammation of the peritoneum and of reflex action of the lungs, and a shock from which it was impossible to rally. A careful examination by the State Chemist was made of the contents of the stomach and abdominal cavity, but no sign of mineral or vegetable poison was found.

UTILIZING WASTE.

A VERY successful experiment has recently been tried in Shoreditch—a parliamentary borough in London—thickly inhabited by about 125,000 persons, mostly artisans, in utilizing the refuse of the houses and streets, amounting to about 60 tons a day. The cost heretofore of removing the refuse to the sea has been 2s. 2d. a ton. An engine, peculiarly adapted for the pur-

pose, has been constructed, and the refuse is thrown into what is called the destructors and burned. The generators each produce 1,100 volts of electricity. This electricity is used for lighting and motive power. Five to ten tons of the refuse is equal to one ton of good steam-heating coal. After the heat-producing properties of the refuse are exhausted what remains is valuable for other purposes. The result is an annual economy of £1,500.

MALARIA.—Dr. Morton, of the Health Department, after a careful investigation of the asphalt pavement in Madison avenue, concludes that it leads to malaria. The air-tight covering of the street prevents the escape of gases formed by the steam-heating pipes, so that they are forced in through the sides into the cellars, carrying with them malarial germs. The trouble, he thinks, can be obviated by a more careful insulation of the steam pipes. With the large amount of street excavating now going on in our leading thoroughfares there must be, even with the great care taken in disinfecting the soil and the trenches, so much danger from malaria as to lead to a watchful note of the past symptoms and the application of the proper remedy.

THE historical societies, which have during the last few years been so popular—of which the Sons of the Revolution is an illustration—have increased the interest in the individual organizations of which the descendants of the first settler of the family in this Western empire are carefully traced, and occasionally, as many as possible, brought together in a family reunion. These reunions brighten and freshen one's life and lead to higher aspirations as reminiscences of the past reveal individual character in pictures of work accomplished in the active enterprises of business or in the quiet and happiness of domestic life. An exceedingly enjoyable family reunion to the number of 100 kindred met on the last of July at the charming county home at Hudson, N. H., of Dr. A. K. Hills, of this city. The summer cottage of Dr. Hills has been erected on ground which formed a part of the large domain of the English emigrant, Joseph Hills, who landed at Boston in 1638.

These broad acres were given to Joseph Hills by the Colony of Massachusetts Bay as compensation for the first compilation of the colony laws, which was made by that eminent lawyer during the latter portion of his professional life in the colony, and was divided among his children by will in 1688. Those who were present on this occasion will never forget the pleasure of this family greeting as they thronged the broad piazzas and looked out over the smooth lawn upon the hundreds of acres which had been presented to their ancestor for services rendered to the State.

These family reunions we should be very glad to see even more frequent than at present, contributing as they do so much to harmony and good fellowship. Sprung from the same stock, kindred of the same blood, as we review the past we are stimulated to better lives and a stronger desire to transmit to posterity a name fraught with honest, faithful work and ever-advancing thought. G.

STEPS are being taken by the Commissioners of Charity to remedy the terrible death rate among the children in the hospitals on Randall's Island. The death rate in 1896, as shown by statistics, was a fraction more than 39 per cent., and thus far in 1897, 34 per cent. The old cow stables which were built many years ago upon swampy ground are to be torn down and new ones to be erected in a more elevated place of the most approved scientific construction.

Some of the hospital pavilions are to be torn down, and the more permanent hospital wards thoroughly renovated. The milk is to be sterilized and particular attention given to the quality and cooking of the food. There is no doubt these improvements, so long delayed, will contribute materially to a very marked decrease of the death rate among the children. The city is to be congratulated upon the intelligence and energy which its Commissioners of Charities and Board of Health are showing in the matter of the general health of the city, and especially of its beneficiaries in its hospitals, prisons, asylums and almshouse. We are glad to see in this connection that steps have already been taken to commit females arrested for pursuing illicit work to the Catholic and Protestant Houses of Mercy, where there will be a chance for reformation, instead of the Work House, where the associations are of the vilest character.

EXTREMES.—A child was recently born in Fishkill weighing eighteen pounds at its birth. The parents are of moderate size, their other children weighing only six or seven pounds. In our own practice many years ago a child was born with but little trouble weighing sixteen pounds and a half. Fearing some after trouble, we made an evening call and found the mother seated at the dining table eating a pork chop.

One of the smallest children at its birth, of whom we had any account, was born in New Orleans three years ago and weighed nine ounces. It is now living, a healthy child, with an appetite much larger than himself. He was the eighteenth child of the couple. Their first child, born in New York, weighed one pound. He is now twenty-five years old and weighs only forty-six pounds. He is connected with a circus and is the smallest athlete in the world.

CACTI.—All the thousands of varieties of cacti are at home only in America. They belong exclusively to this country, and are found nowhere else, except one variety which Guier knew and named cactus. These strange plants are unlike anything else in Nature, and in the United States the varieties range from the giant candlestick cactus of the Arizona desert, which grows sixty feet high, to tiny half globes not larger than a marble.

IT is said by the Roman correspondent of the *Lancet* that there is a foundling asylum in Naples in which in two years, of the 850 patients admitted, only three survived. Three or four infants were often nursed by one wet nurse. In the foundling hospital in Venetia, the area of which is 24,000 square kilometers, and the population nearly 3,000,000, there are received annually 140,000 infants, the majority of which are illegitimate. The mortality is about 52 per cent. The cost of supporting the several hospitals is about $3,000,000 annually.

DR. PAUL PAQUIN, of St. Louis, has devoted his life to the development of serum theraphy, and such information as he has been able to obtain he has given freely to the profession, untainted with commercialism. At the last meeting of the American Medical Association Dr. Paquin read an interesting and valuable paper on the subject, covering the history of 293 cases. Reprints of this article may be obtained by addressing the author.

THE *Daily Lancet*, formerly published in Philadelphia, has been removed to 220 Broadway, New York, and Bailey & Fairchild Company are the publishers. Dr. Joseph F. Edwards remains in charge of the editorial columns.

The following note was received by a Mississippi physician from one of his colored clientele: "DR.: Mi wif hav lost hur recompence to me and is given hur distutions to a nuther man & I wants you to sen me sum poders for to put in hur coffy to rehabilify her desires for me agin. Your truly."

BIBLIOGRAPHICAL.

THE ROLLER BANDAGE, with a chapter on surgical dressing. By Wm. Barton Hopkins, M.D., with illustrations. Fourth edition. Philadelphia: J. P. Lippincott & Co. $1.25.

A very excellent guide to the student. Each bandage was applied to a living model and photographed so as to present a perfectly accurate picture.

THE AMERICAN TEXT BOOK OF OPERATIVE DENTISTRY, in contributions by eminent authorities. Edited by Edward C. Kuk, D.D.S.; illustrated with 751 engravings. Lea Brothers & Co.; 1897.

No department in surgery shows as great advancement during the past few years as dental surgery. The volume has three principal divisions: I. Dental Anatomy, II. Operative Dentistry; III. Dental Orthopædia. The last includes, besides the well recognized department of orthodentia, the modification of facial contours, in which such large possibilities for the application of æsthetic talent and mechanical skill have been foreshadowed by the demonstrations of the originator, Dr. Case. The editor has been fortunate in securing the co-operation of well-written articles of some of the most advanced men in the various departments of dentistry.

CORRESPONDENCE.

THE UNSEXING OF WOMAN.

To the Editors of THE MEDICAL TIMES:

In the August, '97, number of your valuable journal, which accidentally fell into my hands, appears an editorial headed "A Mathematical Problem," calling attention to the widespread inclination on the part of modern surgeons to unsex women, your editorial being a plea for conservatism in this line. Just before reading the editorial I had been sadly musing over the condition of my own wife. These reflections are sent you for publication by a member of the medical profession, who from poverty, location, diffidence and attainments is obscure, yet he would raise his voice as one "crying in the wilderness" against this wholesale slaughter of the happiness of wives, husbands and homes. Why? Eighteen months ago he discovered carcinoma of the cervix uteri in the person of his own wife, then apparently in perfect general health, thirty-five years old, the mother of three children.

The disease was in its incipiency, and not a single symptom that the ovaries were affected had been even suspected. After all my preliminary talks with the surgeon who was to operate, in placing her in his sole charge for a vaginal hysterectomy, I did not dream that the ovaries also were to be removed. Thinking such a course best to pursue, neither her real condition nor the nature of the operation had ever been intimated to her. She knew not her present danger or dreadful ultimate state, and mounted the table with as sweet a smile as ever graced a countenance, feeling that she was in the hands of wise friends and counselors. Sad enough to have lost her uterus, but imagine my surprise, mortification, and indignation as I bent over her sleeping form, yet half narcotized from anæsthesia, the surgeon said to me: "We removed the ovaries also, but they were perfectly normal." After convalescence began as I sat by her bed one bright Sabbath morning, with a countenance of sublime sweetness, resignation and gratefulness to God for recovery (for she now knew something radical had been done) she looked into my face and said, "Doctor, what has been done?" Unwilling to deceive her longer, I told her the whole truth. From that hour to this I have never seen a more miserable wife and husband, whose sadness is so dense as to affect the happiness of their children. In view of the wretchedness that follows it is doubtful in my mind from a moral point of view whether such surgery is justifiable even to save life. But

all agree that if operation is justifiable it is so in the incipiency of the disease only, when the uterus alone is affected; then why remove the ovaries also? But one says why retain them when they are no longer useful? There are three grand reasons why they should be retained.

(1) The subsequent mental state of both wife and husband is enhanced thereby, the woman feeling that she is yet a woman and the husband sharing in this happy mood.

(2) The ovaries possess in some peculiar, undefined way some physiological function in the process of nutrition by means of which the feminine beauty of face, form and disposition is maintained.

(3) In order to prevent that fearful physiopathological train of symptoms that go to constitute the "post-surgical menopause."

Could every surgeon be brought to a personal realization of these potent reasons he would hesitate long and prayerfully before removing the ovaries of a woman unless the exigencies therefor were absolutely unmistakable. And could the mantle of secrecy be removed from the lives and feelings of the unsexed women of this country and their husbands, and should they give vent to their grief in one vast wail of agony, it would touch the hearts of surgeons from the center of this republic to its remotest bounds, and exert an influence upon the profession and the public that would bring about the strictest conservatism in the practice of mutilating or abolishing the generative of sexual organs of woman.

Yours for the profession and humanity.

GENERAL PRACTITIONER.

New York, Aug. 25, 1897.

GOAT BLOOD SERUM.

To the Editor of THE MEDICAL TIMES:

DEAR DOCTOR: I should be greatly indebted to any of your readers who will write to me concerning any experience they may have had in the use of goat's milk in the treatment of wasting diseases. I should also be very glad to receive at the same time professional opinion concerning goat blood serum, as to its antitoxine effect in the treatment of tuberculosis, diphtheria, etc.

In my opinion goat blood serum will be found a valuable agent in serum-therapy. Very respectfully,

W. THORNTON PARKER, M. D.

Groveland, Mass,, Aug. 10, 1897.

SOCIETY REPORTS.

CARCINOMA OF THE OVARY. EXPERIMENTAL INTESTINAL SURGERY.*

BY LOUIS FRANK, M. D,

Professor of Bacteriology in the Kentucky School of Medicine, Gynæcologist to the Louisville City Hospital. Etc., Etc., Louisville, Ky.

The first specimens which I present for your inspection are two ovaries, which are the seat of primary carcinoma as shown by microscopical examination. The history of the case briefly is as follows: The patient was a woman forty-nine years of age, who was first seen about Christmas last for some pain in the abdomen, which was diagnosed floating kidney. She was under treatment for a while, later passing out of the hands of that physician. A few days before I saw her she was seen by Dr. Carl Weidner, who diagnosed some uterine or ovarian trouble.

I was called to see the case and made diagnosis of papilloma of one ovary. The entire pelvis was filled with a mass, the uterus being pushed anteriorly and downward against the pubic bone. It was very small in size. There was ascites, the woman being markedly anæmic, having lost in the previous six months forty pounds in weight. The case was deemed of malignant character, and she was advised to have an operation performed, to which she consented, being operated upon one week afterward at the St. Joseph Infirmary, these two specimens being removed. When removed they were about twice the size they now present, there being a number of cysts throughout each specimen. The cyst enveloping one ovary has not been opened, the sac containing a gelatinous or colloid material. Connected with this ovary there was a very large cyst which extended high up in the abdomen, almost to the umbilicus. The larger cyst was ruptured in attempting to remove it on account of the very soft condition of its walls. There were no adhesions whatsoever. At the time of the operation it was discovered that metastases had occurred, although none of the cysts had then ruptured. Several of the mesenteric glands were involved, and there were one or two spots on the intestines themselves. Before the operation we had thought there were no metastases, and for that reason had advised the operation; in fact, we did not think that it was a case of carcinoma previous to the operation, as the microscope has since shown.

Primary carcinoma of the ovary is rather rare, being much more frequently secondary. Of course where metastases have taken place, results of operation are not at all favorable, recurrence taking place usually very rapidly.

This patient did exceedingly well for five days, when she became very apathetic, and finally lapsed into a sleep, from which it was very difficult to arouse her. The urine had been examined previous to the operation, twice by Dr. Weidner, who found neither albumen, casts, sugar, nor any abnormal condition. At the time the alarming symptoms developed five days after the operation, the nurse was requested to secure a specimen of the urine for examination, but by repeated catheterization none was found. The patient died forty eight hours after the first symptom set in without having secreted any urine, having all the indications of severe uræmia. Chloroform was used as the anæsthetic. There never was a symptom of sepsis, and what occasioned the uræmia, unless there was some pre-existing disease of the kidneys, which was not discovered, I am at a loss to say.

The other specimen is from a case of experimental surgery which we have been doing at the college—being a case of resection of the intestines in the dog. Silk was used, the sutures being put in from the outside in a double row. The dog recovered very nicely and lived eight weeks after the operation, when he died of obstruction. At the autopsy adhesions were found of the omentum throughout at the point of resection, and that part of the gut which was turned in still remains, having formed a valve through which it was almost impossible with a great deal of pressure—I should say ten pounds—to force any water whatsoever, except a drop at a time. The piece of gut, after being taken out, was stretched over a faucet at the hydrant, and not a drop of water could be forced through the obstruction by the pressure behind it. Allowing the water to remain in for some time, and by stripping downward with the finger, a few drops would gradually trickle through, so there is no doubt about the obstruction being practically complete. What symptoms were produced before the death of the dog I am unable to say. The sutures are still in situ, and that part of the gut turned in has not disappeared.

DISCUSSION.

Dr. August Schachner: In this connection I would like to say something which has come to my notice to day in regard to Maunsell's method of performing an intestinal resection and which possibly might be the source of serious trouble. As we all know, in Maunsell's method of resection, the sutures take a particularly large purchase; the two divided ends of the intestine, a purchase of about one quarter of an inch going through all the coats of the intestine. I had occasion recently to kill a dog upon which I had performed the Maunsell's operation, and found that all of these sutures were present in the form of little loops. The sutures had such a strong grasp upon the intestinal walls that they had never sloughed away, presenting simply a row of loops I suppose fully

* Reported to the Louisville Clinical Society.—Stenographically reported for this journal, by C. C. Mapes, Louisville, Ky.

large enough to admit the end of a lead pencil. Now it is possible that such a row of loops hanging into the intestine might cause the arrest of some of the intestinal contents, and might be the starting point for an intestinal obstruction. I do not know whether this has ever been mentioned, but I was impressed with the fact that obstruction might be brought about by such a condition after this method of resection. The dog was killed two and one half weeks after the operation. Perfect recovery had taken place, and in the mean time another resection by a different method had been performed on the same animal.

Dr. Carl Weidner: Referring to the first case reported by Dr. Frank: There was no reason for the woman's sudden death, rather I might say for her premature death, except uræmia, and the next question is why should uræmia occur? I had examined the urine of this patient before the operation, finding neither albumen, casts nor any indication of organic kidney lesion. She did well after the operation, there being no indication of sepsis, but she died on the seventh day, symptoms of suppression of the urine having set in, and no urine was secreted for thirty-six hours before death. There must be some severe shock which takes place in a debilitated patient, making a deep impression upon the nervous mechanism, which results in the arrest of urine. Possibly this may occur in the same manner as we have sudden arrest of the secretion of a gland from some shock to the nervous system. We might compare it to the effect of fright upon the digestive functions.

Dr. W. C. Dugan: I remember having seen a case in the City Hospital very much like the one reported by Dr. Frank. The patient came under the observation of Dr. Boggess in the medical ward, and he called me in to see her. The case had been under the care of his predecessor. She had been tapped two or three times for what was supposed to be simple ascites. Dr. Boggess examined the patient, and found she had a nodular growth in the cul de sac, and it was on this account that I was consulted. We found a considerable accumulation of fluid in the cavity, also detected what we took to be several tumors in the pouch of Douglas, extending above the symphisis. It was decided to do an explorator operation, but we were undecided as to just the nature of the trouble. There were indications of malignancy—rapid loss of flesh and a general toxic condition. An incision was made, and a large quantity of fluid was at once evacuated. We found the left ovary in a condition similar to the specimen exhibited by Dr. Frank, except that the tumor was very much larger. The tapping of the ovarian cyst and the leakage subsequently had allowed the papillomatous growths to become disseminated all over the intestines; I do not think that I ever saw such a condition in my life. You could hardly put your finger down upon the intestine but you would find several growths varying in size from a millet seed to a robin's egg. At the point were the trocar had been passed through, the omentum had become attached to the abdominal wall, and for a space of several inches there were large deposits all over the viscera. This patient went on very much as the case reported by Dr. Frank and died without any septic condition, and the only explanation we could suggest was that she simply died from the intense poison from the carcinomatous tissue. A great impression was made upon the patient because of the acute carcinosis.

Dr. W. H. Wathen: I was present at the operation reported by Dr. Frank, and when the woman was returned to her room I expressed the belief that she would make an uninterrupted recovery. I am not surprised that Dr. Frank should have stated there was no sepsis, because I hardly see how there could have been any. The symptoms must have been due to the character of growth that was removed. Cases of carcinoma of the ovaries do not resist operative interference well, and I presume the patient never entirely rallied from the shock of the operation; the kidneys finally ceasing to secrete urine, she died.

Dr. Louis Frank: I agree with Dr. Dugan that rupture of the papillomatous and cancerous tumors do cause metastases; papillomatous tumors that rupture very often take on, even after rupture, carcinomatous degeneration, as they do also sometimes before rupture. It is very difficult and sometimes impossible to tell macroscopically or microscopically papillomatous from true carcinomatous tissue, and the point where they merge into one another it is absolutely impossible to determine by either way or at times clinically. Papillomatous tumors are at times cancerous in character, and so far as the life of the patient is concerned they may be regarded most always as malignant.

As to the justifiability of the operation, I believe that unless there are metastases, or that the patient is in such a weakened state from cachexia or cancerous poisoning, these operations are justifiable, and in looking up the subject, I find that Sir Spencer Wells, Lawson Tait, and others say that they are justifiable. Those who say they are not justifiable seem to be in the minority, though among them are such names as Schroder, who is now dead, and other equally eminent authorities. The French authority, Pozzi, also thinks that the operation is perfectly justifiable, and all authorities, with very few exceptions, agree that exploratory incision should be done in all these cases, as relief of the ascites alone gives the patient material comfort and lessens the pain, etc., present in these cases.

Dr. W. H. Wathen: I believe the question of secondary infection of the peritoneum was suggested by the remarks of Dr. Dugan. We find in Lawson Tait's work this subject discussed thoroughly, and he mentions a case where he opened the abdomen and removed a very simple, insignificant-looking intra-ligamentous cyst, the patient making a speedy recovery, but dying within three months from diffuse malignant disease of the abdominal viscera. We never know from the physical appearance of one of these tumors or from the physical characteristics of the liquid contained within a cyst of this character, whether the disease is then malignant, or whether it will finally develop into a malignant form of trouble. You cannot diagnose a case such as Dr. Frank has reported, or say whether it is malignant or benign until you have opened the abdomen and come in contact with the diseased structures. You cannot then always make a diagnosis, in fact very often you cannot. There are some of these papillomatous tumors where the papillomata may be within the cavity of the cyst; where they may have filled the cavity of the cyst penetrating its walls, or where papillomata may have developed upon an ovary that looks macroscopically to be positively malignant, but we find that many of them are not malignant, because the patients recover from the operation, and remain permanently well.

A little over three years ago a lady from the interior of this State consulted me, having at least four gallons of ascitic fluid in her abdomen, and with a tumor larger than one's fist upon each side. She was very much emaciated, and did not weigh over eighty pounds when the liquid was removed. She was so very feeble that it did not appear she could withstand an operation. She recovered from the operation and returned home within a little over two weeks, became fleshy and has had no trouble since. I removed two of the most typical papillomatous ovaries that I have ever seen, and expected there would be a return of the trouble within a short time. We sometimes operate and remove papillomata or cyst arising in the ovary, and find during the operation that the peritoneum covering the bowels and probably the mesentary, the omentum and the abdominal walls, are studded with papillomata, and we expect the patient to die, but she recovers and the papillomata all disappear.

Therefore I say that these operations are justifiable if the patient is in such condition as to withstand surgical treatment, because we cannot tell whether the disease is malignant or not. If it is malignant and we can remove all the diseased structures, I then claim that operation is justifiable.

It is always well to remember that in suppurative infection following incisions made in the skin, no doubt the imperfect disinfection of instruments and dressings is responsible more frequently than any other cause.

CHANCRE OF THE LIP.

By W. O. Roberts, M. D.,
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A short time ago a gentleman aged seventy years came to my office, a man whom I have known for a number of years (having been his family physician for a long time) with a sore on his upper lip a little to the side of the median line. This sore had been seen by one or two other physicians during my absence from the city, and had been diagnosticated an epithelioma and an operation advised. He told me it had been there just six weeks when I saw him. It was about the size of a nickel, indurated and discharging a thin, watery, bloody fluid. There was enlargement of the glands on both sides of the neck. I suspected from the location of the sore, and the early enlargement of the lymphatic glands that it was a chancre. I had him strip to examine for an outbreak, and found him peppered with a secondary eruption.

Under treatment for syphillis the sore has now healed, and the eruption has disappeared, the treatment having extended over a period of a little more than two months.

I want to call attention to a point in differential diagnosis between chancre and epithelioma of the lip, which has been noted by others; that is, that epithelioma hardly ever occurs on the upper lip, whereas chancre is *very much more common* on the upper than the lower lip.

This man had no idea where he contracted the disease.

REMARKS.

Dr. I. N. Bloom: The point made by Dr. Roberts concerning the location of chancre of the lip is true. I have seen a great number of chancres of the upper lip and very few of the lower. I never saw a chancre of the lip that I thought, taken in connection with its history, had the appearance of an epithelioma; I never saw a case where I thought there was any doubt. In the first place a chancre makes its appearance on an average of twenty days from the date of infection, and reaches its height in a comparatively short time, a month or six weeks. The degree of the induration, small amount of ulceration, as a rule, in true chancre mark its progress. On the other hand, chancre of the lip in old men is very rare; in fact I do not remember to have heard of a case, except the one reported to-night, in a man as old as seventy years. But I believe when attention is paid to the details a diagnosis can be made in any case. Then, again, the induration of an epithelioma, as a rule, is very much greater than that of a chancre; it is almost cartilaginous in many cases, and there is more extensive ulceration.

I have had a great deal of experience, for some reason, with extra-genital chancres, and especially of the lip—I am sure that I have reported to this society as many as eight or ten cases in the last five years—not six weeks ago I reported a case of chancre of the lip in a young girl—and in none of them did I think there was any question as to the differential diagnosis.

I think the case reported by Dr. Roberts was correctly diagnosed by him as a chancre, although we are led to suspect epithelioma on account of the age of the patient.

I believe that the well trained physician should always make a diagnosis as to the presence or absence of syphilis utterly and absolutely regardless of the statements of the patient, his station in life, his respectability, or his well-known reputation for honesty. If the skilled, trained physician sees evidences of syphilis, he should not be influenced by the patient's statement that he has never had syphilis, and with the indulgence of the society I want to speak of two cases to emphasize this point, One was in a negro; the other a white person. The negro was known to be truthful, and his statements can be relied upon. I was called to see the man in consultation with a surgeon, the patient having a fractured arm. There existed on this man's body a syphilide as undoubted as any cutaneous manifestation can possibly be. He insisted that he never had syphilis, that he had never had a sore of any description on his body, and no amount of questioning could elicit any history of the disease. I believe the man spoke the truth to the best of his knowledge and belief, but the fact remains that he had an undoubted case of syphilitic eruption.

The other case was a man in town who came to me six years ago with a chancre on the top of his nose. The central portion of it became elevated and indurated, and it was as plain a case as I ever saw. It had lasted for several weeks when I saw him. He absolutely denied having syphilis, and there was no history of it. He was at that time thirty-two years of age, and often said to me that there was no reason why he should deny a syphilitic history; he said that he had no idea of marrying at that time.

He came to me eighteen months afterward to ask about the advisibility of his marriage. I advised against his getting married, as he had neglected himself as far as treatment of his syphilis was concerned.

He came back to me this month with a distinct gumma on his penis, involving the side of the corona glandis, extending from the meatus down about a quarter of an inch, also involving one side of the urethra, then passing over to the other side of the penis.

I want to state that most of such patients tell the doctor that they do not know they have syphilis, and I believe they tell the truth in many instances as far as their knowledge goes. In many cases the patient is an intelligent, respectable man, and we would expect him to have a knowledge of infection, but this is not often true, from the fact that the chancre was extra-genital. He may have a small sore somewhere on his body which heals in a short time, and the roseola lasts but a few days and escapes attention. In young subjects we know that a primary sore may disappear in a short time without treatment; the roseola disappears and ten years afterward the patient has forgotten the existence of the sore and the roseola, because at the time neither caused him any inconvenience nor was his attention attracted to either condition. It is common, therefore, in later years when such patients develop gummata in any part of the body, syphilitic deposits in the rectum, etc., for them to say that they have never had syphilis.

Dr. W. O. Roberts: Epithelioma is usually found to be just at the margin of the lip, where the skin and mucous membrane join. I do not know that chancre is more apt to occur in the mucous membrane. We may have a chancre anywhere, on the mucous membrane or elsewhere. I saw one case, which Dr. Bloom will remember, in a man who had a chancre of the lip that began in the skin. It was supposed to have originated from the man sticking a pen in his mouth that had been used by a syphilitic. That was the only way infection could be traced.

I do not agree with Dr. Bloom that it is a very easy matter to differentiate, simply from the appearance of the sore, between the epithelioma and a chancre. Sometimes it is a very difficult matter, and I think the induration of a chancre is just as marked as it is in a case of epithelioma; it is just as hard, and as a general thing doubtless we are misled in the diagnosis by the patient himself. This was true in the case I reported, owing to the age of the man. Epithelioma of the lip is very much more common in old people than in young, being quite rare in young subjects. Chancre, on the other hand, may occur at any time of life. I recall a case where a portion of a man's tongue was removed by a very prominent surgeon in this city because of supposed epithelioma, which proved to be a chancre. When there is any doubt in the matter we should always wait. Of course a short time will clear it up, and a little delay will not interfere to any extent in the prognosis of epithelioma. If it is a chancre the chances are that in six weeks, at any rate in three months, usually three to six weeks, we will have secondary manifestations, which, of course, clears up the diagnosis.

When the breath becomes ammoniacal during the progress of any disease of the urinary apparatus, it is a tolerably sure warning that uræmic poisoning and grave complications are at hand.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF MEDICINE.

New Treatment of Aneurism.—M. Lancereaux exhibited a patient with an enormous dissecting aneurism of the aorta, which he treated successfully by the method recently advised by M. Dastre. This consists of the injection into the veins of a sterilized solution of gelatine 1/100 in variable doses for several days, the cure being obtained by the formation of a clot. The process is absolutely harmless, and seems to be of great service, especially in cases of deep-seated aneurism which cannot be reached by surgical methods.

Acute Ascendinsg Paralysis Occurring in the Course of Antirabic Treatment by the Pasteur Method—M. Rendu: In March last, a patient affected with acute rabies died in a few hours after being received in the Necker Hospital, and on making the autopsy the attendant of the Amphitheatre pricked his finger while cutting the pancreas. A few days thereafter he applied to be received at the Pasteur Institution, the wound meanwhile having been dressed with antiseptic applications, and from the 22d of March the regular antirabic treatment was pursued. He was suddenly taken on the 1st of April with spasmodic rigors and fever, which increased the next and following days, and there ensued progressive symptoms of the gravest character, such as paraplegia of the lower limbs at first, then of the upper, paralysis of the sphincters, vomiting, dyspnœa, tachycardia, etc., and all with a moderate temperature. Antirabic injections, two cubic centimetres daily, were nevertheless continued with antipyrine, etc. On the seventh day a marked amelioration was observed, and in three weeks there was complete restoration. Such is the history of this case, which I submit to the academy for interpretation. Was it a case of spontaneous paralytic rabies? I do not believe that it was. The duration of the incubation was too short. The clinical evolution did not resemble that of paralysis observed in man under similar circumstances. The presence of other symptoms of rabies was wanting, and the termination of accidents of this kind is always fatal A more plausible hypothesis would be that of an acute ascending paralysis of toxic origin. But then were the toxines introduced by the antirabic injections?

Doubtless no, since the cure supervened in spite of the continuation of the Pasteur treatment. I have since asked myself the question whether the injected emulsions at the beginning of the treatment were altered; close investigation has demonstrated that they were not. In my judgment there is only one way of explaining the facts in this case, and that is that the patient, who, by the requirements of his business was eminently exposed to infection, was in a condition of morbid receptivity, and hence, while under the influence of antirabic toxines, there was the possibility of the invasion of myelitis.

M. Roux: I do not know any more than M. Rendu, what to think exactly of the etiology of the case of his patient, but I am opposed to the interpretation toward which he seems inclined. The antirabic emulsions that were injected at the beginning of the treatment are incapable of determining nervous accidents, the proof of which is always shown by the inoculation of the most sensitive animals. I have observed two cases of paraplegia analogous to that reported by him, and am certain that the antirabic treatment had nothing to do with it. These two cases, the only ones registered at the Pasteur Institute since its foundation, of 19 000 that have been treated, sustain my opinion, and enable me to affirm that there never has been between the Pasteur treatment of rabies and the paraplegic accidents of which he speaks any relation of cause and effect. It is not from such impressions that science exists, and statistics such as those of the Pasteur Institute prove superabundantly the perfect harmlessness of the antirabic treatment. M. Laveran, some years ago, had a case analogous to that cited by M. Rendu, which occurred at Val-de-Grace, and I then interpreted it as an abortive form of rabies. Paralytic accidents of this kind do not always terminate fatally.

M. Grancher: Since the inauguration of the antirabic treatment by the Pasteur Institute, numerous cases of so-called paralytic rabies have been observed, which were obscure, and which were not of canine origin. They were most generally produced by hysteria or alcoholism. Is M. Rendu sure that his patient had no form of neurosis or intoxication?

M. Brouardel: I have never yet seen the transmission of rabies by inoculation from man to man; on the contrary, it is not rare to see acute ascending myelitis of infectious form succeeding to anatomical punctures, and does not the case of M. Rendu belong to the order of pseudo-rabic accidents? As respects paralytic rabies in man, it exists, and Morgagni was the first to describe it, the proof of which I will furnish at the next session of the Academy.

M. Dumontpalier: The discussion which has been produced by the communication of M. Rendu is of the highest importance. The antirabic treatment instituted by the method of Pasteur, can it, in certain cases, be condemned or not? It is necessary, in my opinion, to be completely clear and assured upon this point, and I propose to make this question the order of the day at the next meeting.

M. Brouardel: I don't deny that the emulsions of the medulla act by virtue of a certain toxine, but the existence of this toxine is probable—it is not demonstrated—and in all cases there is no absolute parallelism between it and the toxines that cause nervous troubles of infectious origin, as respects acute myelitis of infectious origin, it is far from being rare. A number of these affections have been described in France and elsewhere, many of which were verified by autopsy. Microbes of all kinds have been found—streptococci, Eberth's bacilli, those of anthrax, etc. It seems then legitimate to think that M. Rendu's patient was subjected to the influence of some malignant infection to which the anatomical puncture served as a medium of introduction. So far as I know, the real transmission of rabies from man to man has not been proved; there remains the question of paralytic rabies. M. Leveran cited one case from his personal experience. But paralytic rabies was known long before the creation of the Pasteur Institute; Van Swilten spoke of it, and it is nearly certain that paralysis of this kind, so far from being a check upon the Pasteur method, owes it to the antirabic injections that they are not more frequent and more grave.

Two Cases of Extra-Uterine Pregnancy.—M. Pinard reported two communications of MM. Routier and Tuffier. The first described an operation for the total extirpation of a fœtal cyst which, in the course of the operation, presented such adhesions as made it necessary to ligate and divide the utero-sacral vessels of the right side. The right ureter was also divided, which caused no serious inconvenience, as it was already obliterated by the pressure of the tumor. A forceps was introduced into the bladder instead of the uterus, a section was made of the former, and afterward sutured by the operation; then, the uterus, bleeding like a sponge, was removed, and the patient cured. From this M. Pinard concludes that it is better to operate otherwise, and to establish drainage of the cyst after having voided its contents, which was done in the second operation reported.

Bilaterial Resection of the Cervical Sympathetic in Exophthalmic Goitre.—M. Reclus presented a very interesting case of this operation, made by his assistant, M. Faure. On each side he removed about six centimetres of the cervical sympathetic, and the results were very satisfactory. The assistant who watched the pulse at the moment of section remarked nothing abnormal, either on the side of the face or the neck. The exophthalmia seemed as large, and the thyroid swelling as marked. But in the evening certain differences were observed, the pulse was as rapid and beat at 150, but its regularity was much greater. The patient had a good night, and remarked that for the first time in ten years she could close her eyelids upon her eyes, which were less prominent. The pulse not only regulated itself, but it was less agitated, and the next morning it registered only 100 to 120 a minute. During the following days the amelioration increased, cardiac pulsations much less violent, the sensation of heat is diminished and the patient can sleep several hours without

being subject to spectra. On the seventh day the dressing was removed, reunion was complete, and it was agreed that the thyroid had visibly diminished; it no longer formed the pulsating projection that it had before the operation; pulse now between 80 and 100. At the beginning of the third week after the operation the general condition was greatly improved. The exophthalmia was greatly diminished and the eyes could be completely closed; the goitre is only slightly sensitive and the cervical circumference is from 36 to 39 centimetres. Pulsation of the vessels of the cervico-facial region is no longer visible, and the heart does not agitate the chest at each contraction, pulse about 50, and the trembling of the hands, fibrillar contractions of the muscles and the flexion of the legs have disappeared. There are no insomnia, cephalalgia, profuse sweats nor diarrhœa; patient much stronger and her general condition truly transformed.

SURGICAL SOCIETY.

Treatment of Cancer of the Rectum.—Mr. Quénu: The special difficulty in treating rectal cancer consists in the fact that one form of treatment is not suited to all cases. It is necessary to divide the cancers into inferior, middle and superior, according to their relations to the third sacral vertebra. The superior cancer, or recto-sigmoid, is that which attacks the meso-rectum. The middle, or sigmoid cancer, may be itself divided into a cancer, limited to one or two sacral vertebræ, or reaching as far as the anus, and lastly the inferior cancer, or cancer of the rectal ampulla—ano-ampullar. Diagnosis of the inferior cancer is not difficult, especially in women by the vaginal touch, the finger being enabled to recognize the upper limit. For the middle and peritoneal forms the limitation can only be ascertained by the abdomen.

It is useful to establish an artificial anus as the first step of the operation, and by the opening to explore the upper limit of the tumor by the introduction of the whole hand, the incision having reference to the loop of intestine selected for the artificial anus. The operation is then terminated by the sacral passage. The delicate connections of the rectum exist only upon its anterior surface; it is then by its posterior face that the new orifice should be sutured to the place of the old anal sphincter. I recommend antiseptis of the rectum by a solution of permanganate of potass, leaving a canula in the anus for twenty-four hours.

BIOLOGICAL SOCIETY.

Toxic Power of the Urine of Young Children.—MM. Charrin and Riche: In the normal condition, the urine of children, as compared with that of the adult, in equal volume, is slightly toxic, but it contains, in an attenuated degree, the same poisons, and the accidents which it causes are analogous-myosis, cardiac and respiratory acceleration, thermic oscillations, etc

Holocaine in Ophthalmology—M. Berger: The anæsthesia of the eye subjected to the action of holocain 1 per cent. is more rapidly developed than the corain in solution of 2 per cent. It does not cause dryness of the cornea, or detachment of its epithelium, nor does it facilitate the penetration of pyogenic microbes into the cornea.

Resistance of Homœthermic Animals to Warm Injections Into Their Circulatory System.—MM. Athanasin and Carrallo have proved that animals whose temperature is constant—the dog, for example—possess a tolerance for warm liquids when injected into the veins much greater than is supposed. In effect, they may be introduced as rapidly as possible into the jugular vein in the form of large quantities of water at 90°, and even 95°, without causing the death of the animal.

Action of Chlorhydrate of Morphine in Tetanus.—M. Babinsky reported the case of a morphino maniac woman who was attacked with tetanus, and rapidly cured by the chlorhydrate of morphine injected in large doses because of her toleration of it. Experiments with guinea pigs seem to have proved the retarding action of this remedy in tetanus.

Vascular Troubles of Nervous Origin.—M. Vaquez: These may be of two kinds, some objective, others subjective. In the first group are the paralytic dilatations of the arteries, such as we find in aortitis and arteritis. Certain of them are not permanent, and seem to be due rather to a functional trouble than a durable lesion, and they are seen in migraine, exophthalmic goitre, etc. The subjective affections consist of pains, spasms, palpitations, and occur especially in neurasthenics, so much so that they may be called pulsatile neurasthenia, the palpitations being observable particularly in the temporal region and the aorta. The same may be seen in the veins, so the varices of pregnant women may, as the result of fatigue, present an unusual rigidity of their walls.

M. Danlos: The patient presented has a tumor in the subclavian region composed of two parts, one an anterior, soft, pulsatile, like an aneurism; the other posterior, osseous, which I took for a prolongation of the transverse process of the seventh cervical vertebra. Radiographic proof showed it to be a supernumerary rib.

ANATOMICAL SOCIETY OF PARIS.

Cerebral Hemorrhage.—M. Rosenthal communicated an observation of a patient of sixty five years, who entered the hospital two months previously with right herni anæsthesia and defective vision Left the hospital with no apparent symptom of any alteration of the central nervous system; returned afterward in a condition of prostration, with difficulty in moving the arms and legs, subcrepitant rales at the two pulmonary bases; death with 40° of pulmonary congestion. Autopsy revealed hemorrhage limited to the optic layer of the left lobe, encroaching slightly upon the internal capsule; right lobe healthy.

Abscess of the Brain.—M. Jeanne exhibited the brain of a woman of sixty-three years, with the following clinical history: She had all the appearance of good health, only at the internal angle of the right orbit a small projection was observed, consisting from its appearance of an epithelioma of the upper eyelid, which had been operated upon some years previously. Suddenly the patient could not lift herself up and there was rigidity of the body, at the same time violent cephalalgia, agitation of the left side, with semiflexion of the right forearm upon the arm and flexion of the thumb upon the hand. She remained two days in this condition and died. Autopsy revealed an abscess of the anterior part of the right frontal lobe, containing about 100 grammes of greenish pus, and extending to the convolution of the corpus callosum. This abscess explained the agitation observed on the left side. In the left hemisphere a lobulated tumor was found located under the dura mater which had pressed forcibly upon the third left frontal convolution, and explained the phenomena of the flexion of the arm seen on the right side.

SOCIETY OF HYPNOLOGY AND PSYCHOLOGY.

Hypochondria Consecutive Upon a Hystero Neurasthenia of Toxi-Infectious Origin. Cure in Five Trials of Suggestion Without Hypnosis—M. P. Valentin: The case I now report is a new contribution in favor of pyschic therapeia when applied to the most rebellious phycho-neuroses to suggestive influence. It occurred in a lady aged thirty-eight years, the daughter of nervous and alcoholic parents, and who herself became intemperate after her second marriage with inveterate dipsomania. She had several morbid pregnancies, and was finally overwhelmed by the successive invasion of formidable infectious diseases, blennorrhagic pelvi-peritonitis, variola and influenza. It was in 1892, and in consequence of the last affection that all the symptoms of an old hysteria reappeared complicated with neurasthenia and hypochondria. For four years she refused absolutely to consult a physician, as she was convinced that nothing could cure her diseases. It became necessary to compel her to receive me, as her family became alarmed at her increasing emaciation, and feared imminent tuberculosis.

I was called in August, 1896. On examination a chronic bronchitis was discovered with suspected tuberculosis of the apex of each lung. There was atomic dyspepsia with attacks of gastralgia and obstinate constipation, combined with uterine retroversion, with adhesions and painful perimetritis, trembling of the hands and tongue, alcoholic, total anæsthesia of the right side, with hyperæsthesia of the scalp, headache with frontal constriction and frequent

insomnia, alternating with the characteristic ocular spectra, rats, cats, ferocious animals, precipices, etc.; in a word, a perfect picture of nervous and profound organic disturbance, all of which were well calculated to promote hypochondriasis in a brain fully predisposed. In addition she was excesssvely emotional, amnesric, with painful sensation of ultra-cerebral vacuity, permanent obscurity of thought, and a disgust for life of the most extreme nature. Such were the most prominent characters of the mental condition of the patient. But that which dominated the whole was the idea, ineradicably fixed in her mind, that she was absolutely and hopelessly incurable. It was against this idea, which she had cherished with jealous care for four years, that all the efforts of parents and friends had been directed. Could suggestion, which was indicated in such a case, overcome such an obsession? I was convinced that it could, but the method of applying it had to be discovered.

A trial of hypnotization by Liébault's process was without success; the patient did not wish to be put to sleep. Without insisting, I repeated to her the marvelous effects of magnetism, and operating silently and in a darkened room, I kept my hands applied for nearly an hour upon the forehead. During all this time I continued to insist upon the disappearance of the headache, until finally she consented that she felt better, and my point was gained. Persuaded that I exercised upon her some occult and irresistible influence, of her own accord she submitted herself to the same mode of treatment, and my suggestions were thereafter accepted and realized. Thus, from the 31st of August to the 16th of September, and by five prolonged applications of psycho-therapia I obtained the successive disappearance of all the mental and somatic symptoms of the patient. I should add that from the beginning of the psychic treatment I induced her to maintain strictly a milk diet, with antispeptic remedies, and vaginal applications of salolated glycerine. In less than three weeks her appetite returned, her nights were restful, and her moral character completely transformed. There was less distress in the digestive and genital organs, she held to her promise to abstain from wine and alcohol, and soon gained flesh visibly. She came to consult me now and then, and so, without the necessity for any further suggestive treatment, her health was completely re established.

This observation, added to others, just as convincing and published by a small number of investigators who were interested only in the pursuit of truth, confirms me more and more in the opinion so often expressed in this society that psychotherapeia, when well understood, has for its domain not only the classic manifestations of hysteria, but that it is perhaps above all the treatment of election for all the dynamic troubles of the nervous system, whether in clinical form, and their complications somatic or mental.

ANTHROPOLOGICAL SOCIETY.

M. Crozier, interne of the hospitals, presented and offered to the collections of the society two extremely curious photographs of a boy of four and a half years who had attained an excessive development of adipose tissue which nothing could arrest. His body was very much deformed, all the parts participating proportionally in the general accumulation. His aspect is not unhealthy, and there is an expression about the figure that is surprising. He is very serious, and his regular traits are those of a boy of fifteen years, intelligent and grave. It is certain that the central nervous system participates in the premature development of the body. On inquiry among his family it resulted that neither his parents nor ancestors on his paternal and maternal side had ever been similarly affected; in a word there was nothing pathological as respected heredity. M. Crozier enumerated other similar cases of enormous adipose development, and likened these monsters to the obese women of the Orient. The Jews of Tunis and the Levantines are subjected to an artificial fattening in view of marriage. This practice extends to the Nilotic region among the Wakambas, etc. It is also said that in order to fatten them and promote the development of the sexual parts, there is an established custom in China to mutilate the feet of the woman.

M. D'ault du Mesnil read a report of the collections brought from Russia by M. Baye, and which are exhibited in the Museum Guimet. These ethnographic collections are very important, and represent the prehistoric past of the Oriental region of Russia, of the Volga in Oural and of Western Siberia. They confirm the existence of human tribes contemporary with the mammoth between Tomok and Krasnojarsk, whose industry is comparable to that of the Moustiers. Many specimens brought from the environs of Kazan attest the existence in this country of a long neolithic epoch, which, compared to ours, are archaic in form, and there are objects in Siberian bronze, such as pieces that served as money, that prove the existence of relations with China.

M. Letourneau reviewed the question of the alphabetiform signs of certain dolmens of Brittany. M. Piette recognized between these signs and those which he found upon the colored walls of the caverns of the Pyrenees, relations which demonstrated their great antiquity. In his opinion and that of M. Letourneau they constituted the symbolic signs in use among the populations about the Mediterranean before the creation of the most ancient alphabets. M. Darelay showed that there was a close resemblance between them, and certain letters of the Phœnician alphabet, and it was this circumstance that especially struck M. Laborowski.

Remedies to be Used in the Intestinal Catarrh of Children.—Hock of Vienna cites, in the first place the simple dietetic regimen, which may be sufficient, but to which it is often necessary to add chlorhydric acid, pepsine, papaine, antiseptics, astringents and resorcine. The tinctures of ratanhia and of cachon give good results, but Dr. Hock places above all the employment of tannin alone, or associated with the preceding different methods. By modifying the dose, according to the age of the child, a prompt action is obtained, with a diminution of the discharges in 24 hours, which at the end of three days are no longer mucous. He insists upon the necessity of increasing the dose in tuberculous diarrhoea. In acute dyspepsia chlorhydric acid and diet are the methods of choice.

Yellow Fever, Its Propagation and Treatment.—According to Dr. Barreto, of Brazil, the habitat of the cryptococus of Freire or the torula of Lacerdia is the evil that is charged with organic matter in a state of fermentation. Their invasion of the human organism is by the air and water, or by the lungs or digestive tube. The cities most affected are those in which there are no sewers nor drains, and in which the drinking water is conveyed by canals that are contaminated by their surroundings. Dr. Barreto considers the renal lesion as the principal agent of danger in the disease. It is necessary to guard against combating the muco-bilious vomiting of the first period, which serves as an emunctory by functional substitution. Not so with the black vomit of the following period, which, with other hemorrhages, destroy the patient by ischemia, and favor the explosion of ataxo-adynamic troubles due to the cerebral localization of urotoxhemia. The acute infectious nephritis is then the principal element to be prevented by leeches on the lumbar region, large warm baths of ten minutes, absolute milk diet, prolonged during convalescence, and even until a cure is complete, and finally injections of antistreptococcic serum against the acute infection of the kidneys, with the internal use of the sulphate of quinine and the tincture of eucalyptus.

A Collection of Ancient Unguents, Cosmetics and Collyria.—M. Friedel has recently submitted to the inspection of members of the Academy of Sciences, specimens of different materials that were found by M. Amelineau in the tombs explored by him at Abydos, Egypt. M. Amelineau attributes a very great antiquity to these tombs, as he considers these to be anterior to the first dynasty. M. Friedel particularly signalized bread substances, in which he recognized fatty matter of different kinds, more or less changed by oxidation. From some of them he has been able to extract palmitic acid, from others stearic acid, which was mixed with a proportion of corresponding glyceride. One of the specimens yielded to water a small

quantity of acids, which were thought to belong to a series of certain characteristic acids, like the compositions formed by the oxidation of fatty matter by azotic acid.

Slow oxidation by the air appears to have acted in the same way. In another specimen, presenting an entirely different character, the presence of raisins was recognized. This must be a raisin-plum-cake. In this the organic matter was much burnt, the calcination being nearly half ashes. A careful examination made by M. Gingnard, the well-known botanist, as well as chemist, did not disclose the presence of starch, but some small grains that belonged to a farina which he could not determine. M. Friedel also exhibited small vases, some in marble and onyx, others of a grayish-blue anhydrite, at the bottom of which was found a small quantity of pulverized galena mixed with grain. This was doubtless a cosmetic used by the Egyptians, like the sulfuret of antimony or the "Koheul" still used by women in Oriental countries. M. Berthelot added a few words to M. Friedel's interesting communication. He reported that he also had at different times been called upon to determine the nature of substances contained in the vases discovered in the tombs of Egypt. Besides the fatty bodies recognized by M. Friedel, he had found soft collyria, a species of ophthalmic pommade, whose base was the sulfuret of lead, and sometimes of antimony. M. Berthelot agreed with M. Friedel that these researches were full of interest.

A Surgical Duel.—A duel has just occurred at Bonn which has produced much excitement in that city. Two physicians, assistants of the surgical clinique, Drs. Reussing and Fischer, went upon the dueling ground in consequence of an altercation. Dr. Reussing accused his colleague of having been the cause of his not having succeeded in a surgical operation. Dr. Fischer was killed at the first encounter by a penetrating wound of the thorax, and we are in the year 1897!!

A student of medicine, M. Boryski, was recently graduated in medicine at Varsovia at the age of seventy-five years. He had taken his first instructions fifty-four years ago, but the want of means compelled him for twenty years to exercise the duties of teacher until he could get together money enough to continue his studies. He then passed his first examination successfully, but just at that time the revolution of Poland occurred, in 1863, and he threw himself with enthusiasm into the movement. After the suppression of the revolution Boryski was exiled to Siberia, where he remained thirty-two years, condemned to hard labor in the silver mines. Released in 1895, he returned to Varsovia, where he renewed his course of study that had been interrupted since 1863. At the end of two years he passed his final examinations and established himself as a physician as the age of seventy-five years. We hope that his patients may not be too long in coming to him.—*France Medicate.*

A Very Grave Case of Dermatitis Caused by Two Applications of X-Rays.—Pathogenesis and Treatment.—M. Apostoli: The applications were made in Dublin on the 22d and 28th of May, 1896, and the result was a large sphacelus of the abdominal parietes. The following are the conclusions reached by an examination of the case. 1st. The application of the Röntgen rays may, under certain circumstances, cause a dermatitis with consecutive neuritis, more or less serious, and characterized by a simple erythema, or an eschar more or less deep that may involve the skin as far as the subcutaneous cellular tissue. 2d. This dermatitis, variable according to its location—the skin; nails or hair—variable, too, according to the constitutional condition of the subject under experiment, resembles, in many respects, an ordinary electric burn, and presents like it the same general characters of asepsis, apyrexia, very slow progress in healing, and of equal intensity throughout its whole extent. 3d. It is always the result of the fault of the operator, committed specially by the too near approach of Crooke's tube to the integument, or by its application for too long a time, or finally by too many and too close applications. 4th. Dr. Apostoli proposes as an effectual treatment of this rebellious dermatitis the electric current employed as follows, and the intensity and duration of which shall vary according to clinical indications: (*a*) A simple static current which, by its direct and local action, aided by its general influence, hastens the work of repair and the cicatrization of the ulcers. (*b*) The polar application of a galvanic current, or, better, an undulating current, to accelerate the fall of the eschar and also to favor the ulterior topical and trophic action of the static application. (*c*) The general action of a current of high frequency capable, as shown by Prof. Sarsonval, to assist the general nutrition, and to supply the economy with a supplementary vital force.

Vaccination of Yellow Fever.—A telegram from Montevideo on the 10th of June says: The conference of Dr. Stanarelli upon the etiology and pathogenesis of yellow fever, drew together an enormous concourse of scientists. Delegates from South America, diplomats and the authorities assisted. The savant explained his discovery. The disease is caused by a bacillus called icteroid, very rare in the blood of the sick and in cadavers, and disappears easily after secondary injections in ordinary cases of the disease. The isolation of the microbe is difficult, and the study of the bacteriological body is possible after twenty-four hours' culture in gelose. Dr. Stanarelli has investigated the effects of this culture upon animals. Inoculation of the larger animals is difficult. One year is necessary for the horse, one month for small animals. Small doses of the toxine produce toleration in man, and render possible the attempts at preventive vaccination. Dr. Stanarelli hopes soon to obtain the curative serum. The discovery is considered to be masterly, and has occasioned enthusiastic manifestations of approval. In the evening a grand banquet took place in the Medical Society.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Melancholia Treated by Subcutaneous Injections of Ether.—Dr. R. J. Shepherd, of Pau, France, writes to the London *Lancet* as follows: "Some remarks by Prof. Renault, of Lyons, on the prospective action of the subcutaneous injection of ether in uremia led me to try its effects in a case of brain trouble from uric acid. Twice before a similar attack had been accompanied and followed by deep melancholia. I did not indeed think of the melancholia in giving the drug (10 minims injected deeply into the buttock) but was surprised and pleased to find that it at once disappeared. I gave about six injections in about as many weeks and always with the same effect—it did not need to be repeated for the time. I feel sure that the method deserves a systematic trial, and need hardly say that if it should turn out to be a discovery it will prove an enormous benefit to suffering humanity, more especially in commencing stages of melancholia, which so often leads to suicide; while superintendents of insane asylums may hope to increase their percentage of cures. We need not be surprised that such a remedy should produce such a result, seeing that melancholia seems to be, *per se*, purely a functional condition of the nerve cells, coming and going no one knows how, and leaving no appreciable trace of its presence. The utter harmlessness of the drug in such doses is largely in its favor."

Hennig's Method vs. Antitoxin in Diphtheria.—Hennig, of Koenigsberg, at the recent congress held at Wiesbaden, took a strong stand against the use of antitoxin in diphtheria. He asserted that careful clinical and bacteriological examination conducted by him in sixty-three cases showed Loeffler's bacillus to be present in only thirty-five cases. Some of these cases were true diphtheria; others, ordinary follicular sore throat or tonsilitis. In seven cases in which the bacillus was not present the disease was shown to be true diphtheria by the subsequent development of diphteritic paralysis.

Hennig concludes that any treatment based upon the assumption that true diphtheria is directly due to Loeffler's bacillus must be erroneously founded. He points out the fact that other methods have given better results in the treatment of diphtheria than the use of antitoxin. The treatment which he himself employs, and which he has used in 1,927 cases, with a mortality of only 3.06 per cent., consists in the use of a lime-water gargle and the continuous application of the ice cravat.

Commenting on the above, *Modern Medicine* says: "We are strongly disposed to agree with Hennig in his contention, for the reason that for the last twenty years we have employed the ice-compress to the throat in the treatment of diphtheria with excellent results. We have found it advantageous to replace the ice-cravat every two or three hours by a fomentation for a short time, as a means of diminishing pain."

Bone Transplantation as a Substitute for Amputation.—Bardenhauer (*Rev. De Chirurg.* January, 1897; *J. A. M. A.*) has lately resorted to division and transplantation of one-half of a healthy metatarsal bone for disease and death of an adjacent bone shaft. In cases of the partial or complete destruction of one of the metacarpal or metatarsal bones, by this method he has had in several instances the most gratifying results. Twice he applied this device to exterior destruction of the lower end of the radius. He has also executed a remarkably ingenious operation for the restitution of the upper end of the humerus, by detaching the spine of the scapula from its muscular attachments, cleaving through the ridge close to its base and freeing it on either end. He then transported this segment of live bone into the gap left by the removal of the destroyed shaft. The result, as in his other cases, was successful. In young subjects the scapular spine is reproduced, care being always taken to leave the periosteal investment behind.

Ozone as a Therapeutic Agent.—Labbé and Oudin report excellent results from the use of ozone in whooping cough and tuberculosis (*Charlotte Med. Journal*) In the former case two, three or four inhalations are given a day, each lasting from ten to fifteen minutes. Owing to the great irritability of the throat in these cases the authors commence by using the ozone produced by the silent discharge from an induction coil giving an inch spark, and by holding the child some distance away from the tube. Later on the patient is brought nearer to the tube, the capacity of which is increased, the power of the coil being at the same time doubled. The effects are rapid diminution in paroxysms, improvement in the general condition, gain in weight and increase in oxyhemoglobin. In tuberculosis the ozonized air is inhaled from the inner of two tubes, between which the silent discharge from a Ruhmkoff coil giving a one-inch spark is passing. The proportion of ozone thus inspired never exceeds the therapeutic dose of twelve parts in one hundred million of air. Two or three sittings, each lasting ten to fifteen minutes, are recommended per diem. In six weeks there is marked increase in hemoglobin and in the number of corpuscles, diminution of that of white corpuscles and especially noticeable gain in weight and respiratory capacity. The number of cases was thirty-seven, seven being in the first stage, twenty-two in the second and eight in the third of the disease. The increase in oxyhemoglobin varied from 1 to 5 per cent., that in respiratory capacity from 18 to 100 c. cm., averaging 50 c. cm. The latter was much more marked in the earlier than in the late stages. The increase in weight ranged between one and twenty pounds, averaging six pounds. In addition to this the cough became infrequent, the expectoration and mucus less abundant, while the dyspnœa and sweats disappeared and the physical signs cleared up. Caille confirms Labbé and Oudin's results as regards whooping cough, and finds ozone very valuable in bad cases of chlorosis, but has seen no benefit from it in three cases of apical phthisis. He, however, suggests that its disinfectant properties will render it of much service in the treatment of diphtheria, scarlet fever and other infectious diseases.

Oxygenized Water in Uterine Hemorrhage.—Petit has found oxygenized water a useful styptic in the diffuse bleeding of acute metretis, and in that due to fibroids which leave the uterine cavity sufficiently accessible. If a stem trimmed with cotton wool, dipped in water, containing 12 volumes of oxygen, and not allowed to dry in the air, be rapidly introduced to the fundus, an abundant froth pours from the outer os, and the uterus contracts upon the stem, though not so quickly or intensely as after the application of perchloride. After the discharge of a few drops of serum, more or less colored by hematin, the hemorrhage is immediately arrested; there is no pain, no modification of the tissues, except a slight bleaching of the mucosa, due rather to the decomposition of the liquids than to any caustic action. The hemostasis persists for days, enabling the woman to regain strength, and after one or more successful applications undergo, if necessary, an appropriate radical operation.

Hydrocyanic Acid as an Antidote for Chloroform.—At a meeting of the Society of the Anæsthetists, Hobday urged the use of hydrocyanic acid as an antidote for chloroform. In animals, when symptoms of danger occur, he places a full medicinal dose or the chemically pure acid on the back of the tongue by means of a drop tube, and commences artificial respiration. Theoretically this drug is a perfect antidote in chloroform poisoning, and it is rapidly absorbed from mucous membranes without irritation. Practically he has found the use of hydrocyanic acid to be in accord with the theory.

Effect of Electricity on Disease Germs.—William Rollins, a dentist in Boston, writes to the *Boston Medical and Surgical Journal* that since Röntgen's discovery he has been free from what is commonly called a cold. His profession, he says, exposes him constantly to contagion of this kind, for he operates at least every two or three days on the teeth of patients suffering from this disease. As he formerly suffered severely in this way, he attributes his present immunity to the fact that whenever he feels a cold beginning he starts one of his generators and keeps it running, taking the further precaution, when he has a few minutes' time, to shut himself up in a room with all the generators that happen to be in operative condition. Feeling quite sure that there is some remedial action from these machines he would like to see the air of hospitals charged in this way.

Cure of Carcinoma with Injections of Alcohol.—The remarkable results obtained by Hassel with injections of alcohol are described in the *Therap. Woch.* of October 11th and 25th, 1896 (*N. Y. Polyclinic*). The alcohol favors sclerosis, cirrhosis and cicatrization in all growths like struma, angioma, cysts, lymphatic gland tumors, sarcoma, carcinoma and especially carcinoma of the breast and cervix uteri. In fifteen out of eighteen cases of carcinoma of the breast the growth gradually dwindled away, until in a year there was nothing left of it but the connective tissue stroma, and there has been no return. The three cases that were not benefited were relapses in the axilla of long standing. Five cases of carcinoma of the cervix also recovered completely and the patients are still living and in good health. The effect on the general health is even more surprising. The pains and uneasiness pass away, and sleep, appetite, assimilation and strength return in a most remarkable manner. He uses alcohol diluted one-half, or even more with very sensitive patients, as he has found it less painful, while equally effective with the undiluted. He prefers a Windler syringe to a Pravaz, as the needle is longer by 4 cm. and reaches further into the depths of the tissues. He makes one, or at most, two injections at a time, drawing the breast out and inserting the needle so that the alcohol will penetrate into the retromammary cellular tissue beyond the middle of the gland. The contents of the syringe should flow out gradually on gentle pressure of the piston. If there is resistance he withdraws it a little and inserts the point sideways in another direction. In this way the retromammary space is filled with the alcohol, 4 to 10 c.cm. for small tumors and 10 to 20 c.cm. for larger ones. He is careful not to touch the rear wall of the tumor, but keep always well in the space behind it. After the needle is first introduced he withdraws it to see if any blood flows out of the hole, showing

that the needle had penetrated a blood vessel. If it has he cleans the syringe and inserts it in another place. The injections are made once or twice a week at first, and then later once in two or three weeks. The patients with carcinoma of the cervix were dispensary cases and received only six or twelve injections in all extending over many weeks. A case of inoperable cancer of the rectum is also described as much benefited, but death ensued from heart disease. He has modified the Windler syringe to make it stronger, with a metal tip that screws on and a handle to enable it to be more strongly grasped in making injections into the uterus above the cervix, which require considerable effort. He adds that he never draws down the uterus, but leaves it in its normal position, so that the alcohol can find its way into the tissues without undue distention, which might cause necrosis. Alcohol has no effect on mastitis chronica, and is therefore a means of differentiation. Several cases of mastitis chronica refused to accept his diagnosis, and had the breast removed by other surgeons, when histologic investigation confirmed his statements.

The Influence of Heat Applied Over the Stomach upon Digestion.—A Russian physician, M. Pouschkine (Vratch), has, by experiments upon six healthy persons, definitely determined the following facts respecting the influence of fomentations over the regions of the stomach. The general result was to increase digestive activity. The total acidity and quantity of free hydrochloric acid was increased. The amount of combined chlorin was diminished. Fermentation was diminished, while the production of peptone was increased, as was also the digestive activity of the gastric juice, together with the motor functions of the stomach.

The increased activity of digestion induced by the application of heat was found to persist for several hours, and in some instances for several days. Practical experience long ago demonstrated the utility of the application of heat over the stomach as a means of increasing digestive activity. The writer has made use of this valuable information for more than twenty years, and with excellent success in a great number of cases.

Mercurial Ointment in the Treatment of Wounds.—Majewski has been using for three years a concentrated mercurial preparation in the form of a salve, as the grease prevents too rapid absorption of the mercury. The ointment is applied in a thin layer on a piece of gauze, and very carefully restricted to the wound itself and not allowed to encroach on the adjacent normal tissue. With these precautions all kinds of abscesses, phlegmons and wounds, contusions, etc., healed with remarkable rapidity and completeness. He reports in the *Cbl. F. Chir.*, April 10, 626 cases thus treated in 1895, and 806 in 1896, and recommends the method in high terms, to army surgeons especially. His formula is: 25.0 hydrarg. oxydat. flav. to 100.0 vaselin, applied after careful evacuation of all the pus.

Salix Nigra in Gonorrhœa.—In acute gonorrhœa with much erotic trouble, and in chordee with great irritation, give from thirty to sixty drops of salix nigra on retiring, repeating again at midnight or toward morning if need be. Nothing gives more satisfaction than this remedy, as it robs the night of its terrors and leaves no unpleasant consequences in its train. In excessive venereal desire, amounting to satyriasis, this should be the first remedy employed, inasmuch as it controls venereal appetite in a very decided manner. The salix nigra can be given in cases in which the bromides are considered appropriate, and likewise in which they would be inappropriate, since there is no reflex action on the brain or nervous system.

Treatment of Anal Fissure.—Dr. A. B Cooke, in *Mathew's Quarterly Journal of Rectal and Gastro-Intestinal Diseases* for January, says: "In appearance anal fissure is the most insignificant of all lesions of these parts. As a pain producer, however, it stands correspondingly pre-eminent. The method of treatment originated by Boyer in 1818 in the majority of cases leaves nothing to be desired. This consists in placing the anus gently on the stretch with a bivalve speculum and in incising the superficial fibers of the sphincter in the base of the fissure. A few drops of a 4 per cent. solution of cocaine injected just beneath the lesion renders the operation entirely painless."

Hemorrhage from Bone Arrested by Nails.—Rapin (*Rev. Med. de la Sussie Romande, Medical Review*) mentions the difficulty of arresting hemorrhage from an artery situated in bony tissue, especially if spongy. Ignipuncture or prolonged pressure have been the best means up till now, but the author has devised another method. He nails the vessel with cobbler's nails, previously disinfected. At the end of the operation they are removed, but if any vessel bleeds again the nail can be left in. This device has proved very serviceable during Kraske's operation, six nails being sufficient to arrest the hemorrhage from the divided sacrum.

Supplied Blood "in Extremis"—a Killer of Septicæmia and of Syphilitic Virus.—The following cases are reported in the *Dominion Med. Monthly*, by Dr. W. H. Parsons, of Omaha, Neb:

I. Miss B., age 16, of Lincoln, Neb., was admitted to hospital in Kansas City, Mo., June 9, 1891. Laparotomy for ovarian cyst was performed on June 12th. She was anæmic in the extreme when admitted, and generally in bad condition for an operation, but the case demanded immediate relief and the operation was deemed particularly successful; but the low vitality and extreme nervous irritability of the patient give no promise of a favorable outcome. Shortly after the operation the stomach became so irritable that all nourishment and even cold water were rejected. The temperature and other grave symptoms indicated sepsis. On June 18th, the date of my first visit to the hospital, the patient's life was despaired of and the last rites of the Church were being performed at the time of my arrival. Dr. G., the surgeon in charge, kindly gave me a history of the case. Rectal feeding had already been tried with unsatisfactory results. At my earnest request I was permitted to test the value of the blood treatment, the doctor saying at the time that the patient would not live forty-eight hours. Bovinine, 1 ounce; sterilized water, 1 ounce; pancreatine, 5 grains, raised to a temperature of 100° F., were employed and forced high up into the rectum. This was retained, and the same dose was repeated after an interval of two hours. After eight hours the distress and painful retching subsided, and if food was not alluded to the stomach remained tranquil. For twelve days the only nourishment taken was bovinine every three hours, day and night, and by this process of nutrition alone, the vitality of the patient was restored, so that at the end of that period she sat up in bed and, for the first time since the operation, expressed a wish for food. On July 3d, this moribund girl was pronounced convalescent. II. In St. Louis, a lady had pricked her thumb with some poisonous product, and blood poisoning in its most virulent form supervened, and in spite of the best efforts of several leading surgeons, the case came to a point where amputation at the shoulder seemed the only alternative. The hand and arm were swollen to their fullest capacity, and honeycombed with scores of sloughing ulcers. Upon my advice the hand and arm were dressed six times each day, after having been thoroughly cleansed, with pure bovinine; the ulcers being packed with soft lint saturated with the same, and the entire arm and hand dressed with it. In thirty hours a change was manifested, and in sixty hours healthy granulations began to appear, diseased tissue to slough out, and in twelve days her hand and arm were as good as new. III. A man in St. Joseph, Mo., wounded himself in the hand while dressing dead hogs at the yard. Blood poisoning set in in earnest. In six days all dressings, etc., had failed, and amputation was suggested. I was in the attending surgeon's office when he related the case to me. I suggested wrapping the arm and hand in bovinine blood, changing every four hours. In twelve hours the change was so marked that the doctor sent for me to see the case. In four days he was well. The doctor thanked me, as did the man who was about to lose his arm and probably his life. IV. A man in St. Joseph's Hospital, Oneonta, had his arm smashed in a railroad accident. The fractures were compound and badly comminuted, and in a few days an erysipelatous condition set up, which threatened his life. I was in the hospital, and the attend-

ing surgeon, an old friend of mine, Dr. E. W. Lee, chief surgeon of the B & M. Railroad, called me to view the case. It was truly desperate. I advised taking off all dressings, put the arm on a pillow, cleanse it thoroughly with hot bichloride and wrap the entire limb in pure bovinine. After some hesitation it was done, and in four days the condition had so far changed as to allow the arm to be put back into the dressings. Another life saved, and another victory for Blood. V. Soft chancroid involving the glans and prepuce. The soft ulcer had been doing its work for weeks; appeared almost malignant; various dressings had failed, such as iodoform, etc. The ulcer was packed in pure bovinine and soft lint, changed every two hours the first three days, then every four hours. In thirty-six hours the diseased tissue sloughed out, healthy granulations set up, and in ten days he was well.

RETROSPECTIVE DIETETICS.

Dangers of an Exclusive Proteid Diet in Diabetes.—In an article "on the treatment of diabetes by a diet from which all carbohydrates have been excluded," Dr. Ed. L. Munson (*J. A. M. A.*, May 15, 1897) argues as follows: The accepted treatment of diabetes has essentially consisted in placing the patient upon a diet from which all carbohydrates are excluded. This treatment has the sole object of causing the disappearance of sugar from the urine at any cost, and is based upon the false hypothesis that if this can be accomplished the disease is cured, and that the presence of sugar in the urine constitutes the affection. It can not be too strongly urged that sugar in the urine does not constitute the disease nor is its presence responsible for any pathologic changes or abnormal symptoms. By itself it is merely a symptom and a result of the more morbid processes through which the occurrence of such excessive quantities of sugar in the blood is rendered possible. To treat the sugar excretion can not cure the diabetes. To attempt to treat a constitutional affection like diabetes from a purely symptomatic standpoint would be analogous to attempting the cure of phthisis by treatment directed toward its accompanying cough. The treatment in both should be directed toward the constitutional changes which cause the excretion in the one case and the cough in the other. The sugar excretion, however, may in one way be pathognomonic, since its presence or absence while on a mixed diet shows the presence or absence of the diabetes, and if under such a diet sugar is no longer excreted a cure may be said to have taken place—not because the sugar had simply disappeared from the urine, but because the morbid processes by which the sugar was produced or by which its oxidation was rendered less complete, has ceased to act. It has been shown that a healthy individual can not maintain a normal systemic condition upon a proteid diet, that a diabetic is especially liable to an excessive metabolism, and still it has been the custom to sentence a diabetic, the victim of a disease due to nervous depression, to conditions of diet which directly tend to lower his vitality, to decrease his powers of resistance to the diabetes or to an intercurrent affection and to directly hasten his death by asthenia or coma. It must be urged that in true diabetes the diminution of the sugar excretion by means of a proteid diet means simply the decrease of a symptom at the expense of an essential disease. It was recently said by Dr. Liebmann (*Boston Med. and Surg. Jour.*, September 3, 1896): "I myself am a sufferer from this disease (diabetes). I can get along very well without potatoes or pastry, but I must have bread, and if I do not get bread I become so weak that I can not work. I would rather have 3 per cent. of sugar in my urine and for the time being feel strong than have only 1 per cent. or none and feel otherwise."

But, it may be urged, why give more sugar when the system is already unable to utilize what is excreted unoxidized? Suffice it here to say that the carbohydric ingestion does not proportionately affect the sugar excretion. If a diabetic be given carbohydrates up to a certain amount it is found that an increase of this quantity does not cause a corresponding increase in the sugar elimination, and it is evident that the diabetic still possesses the power of utilizing ordinary dextrose, which he has lost to a greater or less degree with regard to sugar produced by the splitting of albumin. The ingestion of carbohydrates can therefore do no harm, but is rather beneficial in that it supplies an easily assimulated sugar to the organism. Are the extremely dangerous cerebral symptoms, the great body waste and consequent emaciation resulting from the enforcement of a proteid diet, are they to be considered as of less importance than the excretion of a few grams of unburnt sugar, which, it must be reiterated, has but little pathologic and no prognostic significance? A true diabetes can be influenced only unfavorably by the exclusion of carbohydrates from the diet, although a simple glycosuria may disappear during or consequent to such treatment. In conclusion, why restrict a patient with diabetes to a purely proteid diet? The progress of the disease is not favorably influenced in this way, and abnormal conditions are thus produced under which even the healthy individual finds it impossible to maintain his normal systemic condition. A fever patient is carefully nourished and all supporting measures are employed, and yet the processes in diabetes are in one sense similar. Let the diabetic, therefore, live upon a diet which it has been ascertained in his case keeps metabolism at the minimum. Let all depressing measures be avoided, and let the treatment be directed not toward the symptomatic sugar excretion, but rather attack its source in those morbid processes by which its excretion in the urine, unoxidized, is brought about.

No means are at present known by which cure of true diabetes can be rendered certain, or even probable, and it will probably be as difficult a matter to find a specific for this disease as to find one for chorea or melancholia. The treatment then must be prophylactic; to prevent coma and prolong life by a maintenance of the systemic strength and condition by a retarded metabolism. The employment of an exclusive meat or proteid diet is directly inimical to the accomplishment of these results.

Dangers of Decomposed Food.—Of all food that rapidly begins to decompose mackerel is one of the most common (*Charlotte Med. Jour.*). Being both cheap and usually plentiful, when in season, it is largely consumed. Putrefaction sets in very rapidly, especially about the gills of this fish, often as soon as it is taken out of the water. The poisonous principle that has been extracted from mackerel is called hydrocollidine, a very violent poison, so powerful that the seven-thousandth part of a grain will cause death in a small bird. From beef and other fresh meat, when bad, a poisonous body known as vendine has been extracted. Sweetbread, when decomposed, yields a principle named collindine. Putrescine is another poisonous substance that has been extracted from meat flesh and fish when putrid. Mussels are a common article of diet among some classes, and they frequently occasion fatal cases of poisoning. This is attributed to a principle which has been extracted from the mussel called mytilotoxine, also a powerful poison, a grain and a half being a fatal dose. Cheese that has become rotten often causes serious illness. Milk, that universal diet of daily use, may also produce in hot weather the same poison. Its symptoms are nausea, vomiting and fever, followed by great prostration, and it often causes diarrhœa among infants. Sausages, another form of common food, often give rise to hurtful effects due to animal poison. Being frequently composed of imperfectly cooked and old pork and beef, in which putrefaction has already begun, they sometimes produce very alarming effects.

Practical Method of Humanizing Cow's Milk.—The happy results which have followed the use of cow's milk that has been modified so as to conform closely to mother's milk have induced Dufour (*Rev. Men. Des Malad. De L'Enfance*, Sept., 1886; *Med. News*) to seek out a practical method for the humanizing of cow's milk in any family. As is well known, cow's milk differs from human milk in containing an excess of proteids and salts, while it is deficient in sugar. The amount of fat in the two is essentially equal.

Dufour takes a large graduate, which contains about two liters, and has at the bottom a spout closed by a cork. Into this he pours the quantity of milk suitable for an infant of the required age for one day. The vessel is tightly covered and set away in some place which is cool in summer but moderately warm in winter. After about four hours the cream will have arisen. Through the spout at the bottom one-third of the milk is now drawn off; a quantity of water is added equal to the milk which has been withdrawn, and 35 grams of milk sugar and one gram of salt per liter. The whole is mixed by shaking and poured into sterilized bottles. If the infant does not gain weight as fast as it ought, one to two spoonfuls of fresh cream should be added to the day's allowance of milk.

Cooking Schools for Marine Cooks.—The suffering caused by scurvy among the crew of the ship *T. F. Oakes*, which recently arrived in Philadelphia, calls attention to the establishment in England of cookery schools, devoted exclusively to the training of marine cooks. A. Quinlan, instructor of the seaman cookery school of Liverpool, refers, in a recent communication to the *Epicure*, to the fact that on ships provided with certificated graduates from the institution named no cases of scurvy ever occur. The pupils are taught how to make fresh food out of the saltest of meats and to concoct appetizing dishes from all sorts of ship's stores. Mr. Quinlan instances the case of the ship *Holt's Hill*, which carried one of the certificated cooks. This vessel made a voyage around the world, and not a single case of illness occurred among the crew. Usually on English ships that make long voyages desertions are many on account of the insufficient and improperly prepared food, but on the *Holt's Hill* the original crew remained from the beginning to the end of the voyage. This is looked upon as a phenomenal record.

The Use of Antiseptics in Foods.—The *Lancet* of January 2, 1896 (*Medicine*), gives the views of several noted men on this subject. Sir Henry Thompson has long held that the addition of antiseptics to foods is a most undesirable practice, especially in milk fed to young children. He entertains very strong objections to the dietetic use of drugs at any time. Dr. Pavy and others think that when antiseptics are used the kind and amount should be clearly stated on the container. Dr. Allen says that those substances which are foreign to the animal economy, as boric acid, must necessitate a departure from the normal chemistry of life, as there must be enough of the antiseptic present to exert a decided influence on protoplasmic activity, which would hardly be beneficial to the tissues of the alimentary canal. The late Sir Benjamin Ward Richardson regarded their use as necessary and not injurious. Editorially, the *Lancet* cites the fact of salt, sugar, woodsmoke, etc., being in daily use, and regards the use of salicylic and boric acids, formalin, etc., as a mere question of degree of preserving power, they being more powerful antiseptics, and consequently used in infinitely smaller quantities.

Diagnostic Points in Diseases of Children.—The following are given by Dr. J. Lewis Smith in the *Medical Council*:

Lividity of the skin, induced by exertion or excitement while the respiration is normal, indicates malformation or disease of the heart or vessels. Transient circumscribed congestion of the face, ears or forehead is a most reliable sign of brain disease. Absence of tears in infants over four months of age, during the act of crying, indicates a severe and probably fatal form of disease. A permanent downward direction of the axis of the eyes, with smallness of the face and great expansion of the cranium, is a sign of congenital hyddrocephalus. Young children do not shake when they have chills, but have a pallor or lividity of the skin, lips and nails. Bulbous enlargements of the fingers and incurvation of the nails are signs of cyanosis and therefore of malformation at the center of the circuatory apparatus or of tuberculosis or chronic pulmonary diseases attended by malnutrition.

Enlargement of the spongy portion of the bones, causing prominence, softness and bending of the bones: An open condition of the fontanelles, a large, square-shaped head and delayed dentition indicate rachitis. A thick, meibomian secretion of a puriform appearance collecting between the eyelids is an unfavorable prognostic sign. It indicates a state of great depression. It is observed more frequently in cerebral and intestinal diseases shortly before death. There is often a hyperesthetic condition of the skin with certain acute, febrile and inflammatory affections. This hyperesthesia is more often found on the anterior surface of the trunk. This condition is often misleading to the physician, leading him to think that the hyperesthetic pain is of an inflammatory nature. The pain of hyperesthesia can be readily diagnosed from that of inflammation by the fact that it is so extensive, is less severe on firm pressure than on light, and is especially observed on the inner surface of the thigh.

To Deodorize Iodoform.—According to the *Journal de Medicine*, spirits of turpentine will at once remove the objectionable odor from the hands after using iodoform, as well as from spatulas and vessels that have been in contact with the drug. A little turpentine should be added to water, and the articles it is desired to deodorize placed therein, being subsequently washed with soap and water.

The Cigarette Habit.—Dr. J. C. Mulhall, of St. Louis, himself a cigarette smoker for twenty-five years (*N. Y. Med. Jour.*), disperses the popular delusion that when the smoke of a cigarette is inhaled it pervades the air vesicles of the lungs, and the nicotine it contains is all absorbed into the blood through the delicate respiratory membrane. As a matter of fact, the smoke reaches only to the larger bronchial tubes, probably in a majority of instances not to a point much below the larynx. To the mucous membrane of these large air passages the smoke does little harm as an irritant, although it may aggravate pathological conditions already present. The surface by which nicotine is absorbed into the blood is much larger than that of the mouth, however; so that, although relatively only a little of the poison is contained in a cigarette, much more of it finds its way into the system than when the smoke from a cigar or pipe is simply drawn into the mouth and at once blown out. The inference to be drawn from this is that the inhalation of tobacco smoke is a bad practice. That it is more likely to be indulged in by persons who smoke cigarettes than by those who restrict themselves to cigars and the pipe may be readily conceded. At the same time it is quite certain that many smokers inhale cigar smoke and pipe smoke at times, if not habitually; sometimes they do it involuntary. Dr. Mulhall expresses himself against the common assumption that cigarettes are especially injurious on account of their containing other poisons besides nicotine. So far as the constitutional effects of cigarette smoking are concerned, he states, as the result of fifteen years of careful study of the matter, that they are absolutely the same as those of tobacco used in any other form; and he cites Ledaux, who has subjected various brands of cigarettes to chemical analysis, as having found absolutely no evidence of any other drug but nicotine in the tobacco, and in the paper a harmless quantity of cellulose. It is, indeed, the height of absurdity to suppose that cigarettes are sophisticated with opium. Opium, as has been often said, is too expensive to be used for such a purpose. The chief evil of tobacco is its constitutional effect upon the nervous system; and, as the cigarette habit is so common in boys, it is to be deplored on that account; but, as far as its local effects on the larynx are concerned, the author has been unable to discover any but trivial hyperemia and secretion.

The Cornell Brain Association.—This singular association (*Boston Med. and Surg. Jour.*) apparently has for its object the post-mortem study of the effects on the human brain of education and good morals. At least we learn from the daily press that Dr. Wilder, of this association, has made another appeal to educated and moral persons to bequeath their brains to the association for scientific study. In response to this letter the society has already received eight brains, and has the promise of twenty-five others, which are as yet being used by their owners.

These latter include the brains of Thomas K. Beecher, of Elmira, and Mrs. McGee, daughter of the astronomer, Simon Newcomb. Apparently no brains of immoral or uneducated persons can be used by the association, though it would seem that a few of the latter classes might prove of advantage for purposes of comparative study.

Scrumpox.—"Scrumpox," the *Boston Medical and Surgical Journal* informs us, is the English schoolboy's name for a severe form of impetigo occurring among the forwards of Rugby foot-ball teams. The "scrum" or "scrimmage" with its close commingling of heads, arms and legs in indiscriminate confusion undoubtedly offers ideally favorable conditions for the communication of this disease, which is usually confined to the head and face, and often results in severe dermatitis with glandular enlargement.

To Drive Away Flies.—Dr. H. S. Baketel writes to the *Medical Record:* An excellent safeguard against these pests is the sweet-pea flower. The lathyrus maritimus, the purple variety, grows near the sea coast from New Jersey around to Oregon, and beside the coasts of the great lakes. The lathyrus ochroleucus is found on the hillsides from New England to Minnesota, and even further west. It is distinguished by its small, yellowish-white flower. Either of these varieties can be grown in the sick-room, and the sweet odor emanated seems very offensive to the ordinary house fly.

Smegma as a Diagnostic Difficulty.—It appears from an article in the *Fortschritte der Medicine* for May 1st, by Dr. Grethe of Halle, that the smegma of the genitals may take the shape of rodlike particles and appear in the urine in a form not to be distinguished from the tubercle bacillus, short of culture experiments or tests by means of staining. The surest way for the practitioner who has not the resources of a laboratory at his command, Dr. Grethe thinks, is by staining with a concentrated alcohol solution of methylene blue.

Taking the Air Without Going Out.—Elderly people and others who may be temporarily house-bound and prevented from enjoying a regular daily stroll outdoors can devise a fair substitute (says the *Health Magazine*), as follows: Bundle up as if for the usual constitutional, select a large, sunny room, preferably at the top of the house, open wide the windows, shut off the heat and move around briskly, going to the window and inhaling the fresh air deeply through the nostrils. We have often called attention to the fact that house air, with its many impurities, oveheated condition and general lifelessness, is one of the principal predisposing causes of colds and catarrhal affections. Where a patient or invalid is confined to bed, if the shoulders are kept well covered and the head lightly protected, the windows may be opened and the room flushed with fresh air without any special risk, provided the current does not strike them too directly. The danger from want of proper ventilation is decidedly greater. Deep inhalations of air at the open window, taken gently through the nose, impart an enlivening and tonic influence to the whole nervous system, which can soon be demonstrated by a personal experiment.

The Use of Mustard.—Recently Roswell Park, in the *Medical Times*, of London (*Charlotte Med. Journal*), called attention to its remarkably efficient powers as an antiseptic or sterilizing agent for the hands of the surgeon and for the skin about the seat of operation. Park's method is to scrub his hands thoroughly with a mixture of green or other soap, corn meal and mustard flour, using this for about five minutes. After rubbing it thoroughly into all the crevices and creases of the hands and nails by aid of a nail brush, one may be absolutely certain that his hands are sterilized, no matter what he may have been doing previously. Roswell Park states that he has no hesitation in proceeding from a necropsy to the operating room if he thus protects his hands. Used as indicated the mustard leaves no unpleasant sensation, and one may feel that by the time it produces any unpleasant tingling or rubefaction of the skin its essential oil has done its desired work as an antiseptic. Park has discarded all other means of preparing the hands, and in several years' use of mustard in this way he has never been disappointed or had the slightest reason to question its effectiveness. He adds that mustard is an admirable deodorizing agent, and will take away from the hands all offensive odor of dead or dying tissue, idoform, etc.

Hot Water and Ulcer of the Stomach.—Dr. Achilles Rose (*Med. Rec.*) said he was aware that drinking hot water had become very popular, and it had become necessary to sound a warning. It had been shown by collective investigation that a great many cases of ulcer on the stomach occurred in cooks. This had led to the supposition that it might be due to tasting hot soups, etc. Consequently laboratory experiments were instituted on dogs by pouring water, about of the temperatare usually prescribed for patients, through a tube into the stomach. These dogs were killed from day to day and week to week, and it was found that the hot water first caused a hyperæmic spot, and, in course of time, ulcer of the stomach. Dr. Rose was once visited by a cook, whose master's physician had prescribed for her drinking very hot water. Dr. Rose found that she was suffering from ulcer of the stomach. A condition contraindicating hot water treatment.

Diagnosis of Calculi by the Roentgen Rays.—Dr. D'Arsonval believes (*Bull. Acad. Med.*) that a great diagnostic advantage will soon be reaped, in regard to renal and vesical calculi, by the Roentgen photography. The latest pictures obtained by Chappuis and Channel have an especial value, since they show that it will soon be possible to diagnose calculi in the urinary passages with absolute exactness. They not only show the existence of a calculus in the bladder, kidney or ureter, but it is possible to distinguish the substances of which it is composed, whether it is homogeneous or formed of different layers, whether the kernel is small or large and of what it is composed. The most interesting photograph from this point of view showed: 1. The silhouette cast by a calculus of pure uric acid; 2. That of a calculus of the same size as the first, but composed exclusively of phosphate of ammonia and magnesia; 3. That of a calculus much larger that the other formed of several distinct layers of uric acid in the centre, with an outer layer, 4 mm. thick, entirely different in color and composed exclusively of the triple phosphate. 4. The silhouette of above 1 cm. thick, and another of the index finger of one of the experimenters. The differences in the depth of shadow in this photograph are so marked that it is impossible to mistake the characteristics and kinds of the calculi. The tiny kernel of uric acid is distinctly visible, while the outer layers of the large calculus are represented by clearly defined rings. A second photograph showed another calculus with a kernel formed of sodium urate, inclosed in an outer layer of the triple phosphate, both very clearly defined in the photograph. A third represented a number of uric acid calculi lodged in the parenchyma of the kidney, one half of which was 5 cm. thick. The rays passed through this thick layer of tough tissue and the calculi alone showed in the photograph. It will be a simple matter, therefore, preliminary to an operation, to take the photograph of similar calculi, and then compare them with the results of photographs taken through the patient.

New Mode of Disinfection and Sterilization.—The Antwerp correspondent of the *Liverpool Journal* says (*Cin. Lancet-Clinic.*): As in all large ports, the medical commission plays a very important and responsible part, and its duties have been all the more arduous in the last four years, since the United States has demanded such rigid examination of all emigrants, their baggage, etc. In connection with sanitary arrangements and regulations of the port some experiments of a most interesting character were made at the St. Pierre Hospital in the presence of the Antwerp Medical Commission. The subject of the experiments was the demonstration of a new and practical

mode of disinfection and sterilization. The means employed consist of a gas obtained by the partial combustion of methylated spirits, which, while perfectly innocent in its effect upon human beings, non-toxic and free from all corrosive action, is said to possess the property of destroying every trace of bacteria or microbes in the atmosphere of any inclosure. The experiments so far have been thoroughly successful. If such a system of disinfection can be proved efficacious it will be a blessing to steamship companies plying between Europe and the United States, for in time of contagion of any kind the United States Government demands fumigation by sulphur, which is a most disagreeable and unprofitable process. The question will be studied with a view to adapting it to the disinfection of ship, passengers, luggage and cargo.

The Civil Responsibility of Sexual Perverts.—The following is from a most instructive article by Hamilton (*Am. Jour. of Insanity*, April 1869) on the above important subject: When contracts or wills are made by one woman under the influence of another, something more should be conceded as an invalidating factor than the existence of a pertinent and dominating delusion, for there is no stronger dominating influence than a continued appeal to the passions, and especially the sexual feelings; and the apparently harmless intimacy of two women may, if understood, lead to the perpetration of great wrongs and perversion of property.

As the matter of proof is so difficult and the rights of women so zealously guarded by sentimental judges, the matter of determining the degree and depth of the intimacy is often hedged by seemingly insurmountable difficulties, which are increased by the indignation aroused by the merest insinuation that women, in certain ways, can know each other too well.

Mental Symptoms of Bodily Disease.—Reynolds (*Brit. Med. Jour.*, September, 1895) come to the following conclusions regarding the relation of bodily disease to insanity:

1. It is a comparatively rare occurrence for actual insanity to develop during the course of bodily disease.

2 In general hospitals mental disease most commonly occurs after fevers, poisons, injuries, operations and heart disease in about this order of frequency.

3. In the early stages of fevers and after injuries and operations, mania is the commonest form of insanity. In other conditions depression is more common; but the commonest form is an insanity with marked delusions of persecution often associated with hallucinations of hearing, such as one sees in phthisis and heart disease and after typhoid fever.

4. There is no form of insanity connected with special bodily disease, so that it is impossible to diagnose the bodily disease from the mental symptoms present, except the peculiar state of alcoholic paralysis.

5. Insanity occurs with unusual frequency in bodily disease associated with peripheral neuritis, as poisoning by alcohol, carbon bisulphide and lead; pellagra, typhoid, typhus, scarlet and rheumatic fevers, influenza, pneumonia, phthisis, syphilis, septicæmia, rheumatism, gout and diabetes. Is it possible that in these conditions the factor which causes the changes in the peripheral nerves causes also similar changes in the multitudinous internuncial fibers in the brain, and so produces disturbances in the normal cerebral reactions which go to make up a healthy mind?

6. When the cause is not continuous, such as the poisons, the fevers and the traumata, the mental symptoms in the great majority of cases disappear; in heart disease and phthisis they may disappear and reappear from time to time, but in some cases, such as insanity connected with gouty kidney, they only disappear with death.

Tonic Action of Lead on the Heart.—An example of exceedingly rare complication is given by Janowski (*Neurolog. Centralbl.*, No. 7, 1895), who details the clinical history of a plumber, aged twenty-seven years, who in addition to the ordinary symptoms of lead poisoning—colic, constipation, yellowish skin, tendency of the gums to bleed, blue lines on the gums, fetid odor from the mouth and a previous ulnar paralysis—exhibited other remarkable symptoms: (1) Embryocardia, the pulse at times attaining a frequency of 200 beats per minute, to be the following day normal; this was believed to be due to a direct action of the lead on the cardiac ganglia. (2) A paralysis of the two lower branches of the right facial nerve. (3) right-sided myosis with diminished light reflex. These two latter symptoms are attributed to lead intoxication, there being no other explanation. Lead was demonstrated in the gums and in the urine.

Premature Burial.—An editorial in the *Medical News* for December 14 contains some sensible and reassuring remarks upon this grewsome topic. "It is a striking commentary," we are told, "on the vagueness of the line that divides living from dead matter that, after centuries of investigations, no one, nay, no two signs can be designated, the presence of which absolutely indicates death and the absence of which positively proves life.

"Nevertheless, we venture the statement that except in war-time, cases of premature burial have been, and are, extremely rare, and will be practically impossible in the future. In the first place, nearly all the reports of such incidents are of a luridly sensational and dramatic character, and either highly improbable in themselves or utterly unsupported by adequate evidence.

"The ordinary coffin, moreover, still retains the traces of an origin that has long been utterly forgotten in both its peculiar coffin shape and its tightness, viz.: The original Norse custom of burying the dead in boats or galleys sent out to sea at sunset, so that the amount of air that can penetrate its joints when the lid is screwed down is extremely small. The modern casket, it is true, has lost the peculiar shape, but has added to the tightness, and, indeed, ability to render it air-tight is an especial boast. Granting, however, the highly improbable condition that one-half the carbon dioxide diffuses through these chinks as fast as it is expired, we would still be confronted by the fact that the air in a coffin in which a breathing body is inclosed would be a rapidly fatal narcotic poison within ten minutes after the lid has been fastened down; in fact, before it could be lifted into the hearse. This has been actually proved in a most ghastly manner in several curious cases, most notably in Frederick the Great's attempt to kidnap a Scotch carpenter of gigantic stature for his celebrated Grenadier Guards. The man was entrapped by being given an order for a coffin for a fictitious individual, several inches shorter than himself. When completed it was declared too small, and the indignant carpenter was induced to lie down in it himself, to show that it was even larger than ordered. He was at once overpowered, the lid nailed down and the coffin carried rapidly to a deserted house, where it was opened only to find that the poor fellow was asphyxiated, although he had been confined in the box but a very short time."

Antitoxine as a Preventive of Diphtheria.—Mr. Lennox Brown's opinion is unfavorable to the prophylactic efficacy of antitoxine. He says: "As a corollary, we might be able to pronounce that the power of antitoxic serum to ward off a possible attack of diphtheria is in proportion to the vigor and healthy blood condition of the individual in whom it is employed; but the very minute dose administered for this purpose is evidently capable of being soon broken up by cellular action in the healthy.

"We can, therefore, understand the general admission as to the evanescent character of the immunity so attained. Moreover, reports of cases are not wanting in which noxious and even fatal results have followed the use of serum when employed as a prophylactic.

"On all these grounds, therefore, we do not feel justified in recommending serum for this purpose. More real methods of preventing the spread of diphtheria are to be found in improved sanitation, in prophylactic surgical treatment already detailed, and in efficient isolation and disinfection."

An English physician claims that regular daily traveling in railway cars has a hygienic value, and is especially beneficial in cases of gout.

MISCELLANY.

—Prof. Max Joseph Oertel, of Munich, died July 13th.

—The week ending June 27th the death rate in Chicago was only 10-99.

—Dr. Unzicker recommends castorsa vasca as a highly valued remedy for whooping cough.

—To keep away mosquitos apply a mixture composed of one part of oil of sassafras to four of alcohol.

—The President of the Republic of Brazil is a physician of note and president of the Bahia Medical College.

—The municipality of Paris has changed the name of the Boulevard de Vaurigard to that of Boulevard Pasteur.

—In hematura from renal disease we have found two drops of theaspa given every two hours act very promptly.

—The obstetrical forceps of the sixteenth century have been found to be almost as perfect as those in present use.

—It is not well known that cats, as well as dogs, are subject to rabies. At the Pasteur Institute, in Paris, one in twenty of all the cases treated are due to the bites of rabid cats.

—The cable speed at Dead Man's Curve, Broadway and Fourteenth street, has been reduced to two miles an hour.

—Dr. Friutnight says the local use of expressed lemon juice is a most efficacious remedy to stop bleeding at the nose.

—Dr. Thomas Addis Emmett's library, valued at $240,000, has been sold to the New York Union Library for $150,000.

—By order of the Board of Health the water tanks on the roofs of tenement houses have been examined and thoroughly cleansed.

—A fact worth recording is that the female employees of many German factories are forbidden to wear corsets during working hours.

—In one of the recent terrible thunder showers, the St. John's Guild Floating Hospital was struck by lightning and a child at the breast killed.

—Notwithstanding the immense crowds in London during jubilee week, they were managed so well that there were but very few accidents.

—Dr. F. Parke Lewis, a homœopathist, says there is no such thing as a "homœopathic medicine." No drug belongs by divine right to one school or another.

—Aluminum has been endorsed by the German Health Bureau as a proper substance for cooking utensils, and free from the dangers incident to copper, tin or lead.

—Miss Wilson: I don't see what it is that makes Selina Price so stuck on her Chinese Sunday-school scholar. Medical Friend: It must be a *cue*-taneous affection, I think.

—"Man is born with his hand clenched; he dies with his hand open. Entering life he desires to grasp everything; leaving the world all that he possessed has slipped away."

—In a doubtful pension case an X-ray photograph was accepted as evidence by the department, showing an injury to the bones of the forearm which previously was not accurately determined.

—Dr. George Cohen reports, in the *American Journal of the Medical Sciences*, that he gives 5-minim doses of belladonna tincture to each 10 grains of potassium iodide to control the coryza caused by the latter drug.

—*Danger.* A stranger in the city passing a large building, said: What building is that?" "The Sloan Maternity Hospital," was the reply. "Good gracious!" said the stranger, "let's cross the street. It may be contagious."

—Dr. Smith Baker, of the Utica State Insane Hospital, says "that the steps toward insanity are to be looked for chiefly in ancestry and faulty nurture, and when found each step will prove to be definite and perfectly intelligible."

—M. Megnin, of the French Academy of Medicine, in his recently published book, entitled "La Faune des Cadavres," effectually abolishes the popular idea that we are the victims after death of worms spontaneously generated.

—The Parthenon at Athens, which has been in danger of falling into total ruin for some years owing to the action of recent earthquakes, is now being repaired by a commissson acting under the authority of the Greek Government.

—Petermann and Graftian, of the Belgian Academy of Sciences, find that hoar frost is peculiarly rich in nitrogenous compounds, and therefore plays an important part in increasing nitrogenous matter in the forest and in purifying the air.

—The *Union Med. du Canada*, commenting on a recent case of staphylooccus contracted by a physician in the barber's chair, asks why should not barbers be compelled to boil their instruments. Why should there not be a municipal regulation to that effect? We earnestly echo the inquiry.

—The case is reported of a man named Alexander Waitzfelder, a faro dealer in this city, who in the course of his profession was accustomed to hold rolls of bills in his mouth while counting out money. Through an abrasion on his lips poison from the greenbacks entered his system, resulting in death.

—The latest announcement of Behring is that he will in future supply serum in solid form. The advantage is that no antiseptic will be necessary to preserve it. Thus modified it will not undergo any change for an indefinite time, and the accidents which sometimes resulted from its use and were attributed to the antiseptics, will be avoided.

—Electrically salted meat is the product of a process invented by a Mr. Pinto, of Rio Janeiro. A continuous electric current is passed through the brine for from ten to twenty hours, completing the cure. It may be supposed that electrically generated ozone would prove a powerful factor in sterilizing and preserving meats, in this process or in others.

—Experiments in hypnotism recently made by the most famous French hypnotists show the singular fact (*Cleveland Med. Gaz.*) that in spite of the supposed inferiority of woman to man in point of nervous and physical organization, it is a third easier to place a man under the influence of hypnotism than it is to induce a woman to accept hypnotic suggestion.

—According to a Paris journal a Frenchman has been trying to compel bees to make medicated honey. He keeps the bees under glass and gives them only flowers that have the desired properties. Thus he obtains different kinds of honey by which influenza, coughs and colds, indigestion, asthma and many other ills are said to be readily, if indirectly, reached.

—The talk of the town at present in Paris is Dr. Genier, the new member of the House of Deputies from Pontarlier, who is a rigid Musselman, having been converted during a residence in Algiers. He is highly educated, a skilful debater, and a regular qualified physician. He never refuses a consultation, never takes a fee, and gives away his whole fortune. He advocates polygamy and practices all the Mohammedan rites.

—Ralph Waldo Emerson told a good story of a friend who always carried in his pocket a horse-chestnut as a protection against rheumatism, just the same as some people wear shields, Boyd batteries, the electropoise and other trinkets. Emerson thus testifies to the results in his friend's case: "He has never had the rheumatism since he began to carry it, and indeed it appears to have had a retrospective operation, for he never had it before."

ORIGINAL ARTICLES.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M. D., LL. D., New York.

Identica, Similia, Contraria—
By these signs we will conquer.

Part VII.—Sulphur.

SOME one has said that "with perfect solutions of crude and purified sulphur at command much of the materia medica might be dispensed with."

This assertion may be extravagant, but it has a foundation of truth which will be discovered and developed during the coming centuries. Many neglected simples of ancient medicine are yet to become therapeutic corner-stones.

To-day we hold in high esteem active principles of drugs, and in all probability many of these will be retained among the *mechanics* of therapeutics, such as those which contract and dilate blood vessels, etc., but future wisdom will endeavor to secure *all the delicate medicinal forces* of the vegetable kingdom, without disturbing those beautiful and perfectly fitting combinations in which nature has bestowed them upon mankind. So, too, will man earnestly consider remedies from the mineral world. That sulphur has not held its deserved rank there can be no question. Modern medicine has sought and applied it in every conceivable chemical combination with vegetable and mineral medicines, but has almost ignored sulphur as a remedy in its natural form. This should not be, and in the coming era of broad and deep medical research it will not be.

An old physician once said: "Even at the risk of being charged with irregularity and rank empiricism, when in doubt about a case I have often administered a few doses of sulphur, and after carefully watching such patients, have, in the majority of instances, had no reason to regret my adoption of this rule, however absurd it may seem." An able German practitioner, who served on the surgical staff in the late Franco-Prussian war, said: "Although I have known comparatively small doses of sulphur to produce troublesome diarrhœa when long continued, yet with a single small dose very finely ground, I cured a boy, four years old, of a serious chronic watery diarrhœa, from which he had suffered, early every morning, for six months. This child had been carefully treated by others without benefit. I have also found sulphur useful in many chronic diseases, whether inherited or acquired, and especially those which have been in consequence of acute diseases. In the early stages of pulmonary phthisis it has proved useful in my hands. For some of the troublesome sequences of measles it is of undoubted benefit. In many cases of serious cerebral disturbance following sudden suppression of menstrual or hemorrhoidal discharges, I have obtained the greatest benefits from finely prepared sulphur used alone."

Having frequently noticed reports of the value of sulphur in some epidemics of diphtheria, and its uselessness in others, the writer, thinking that sulphur might be made more generally effective, asked a practical chemist of extensive experience (Mr. F. M. Hill, of this city) if it were not possible to prepare a solution of pure sulphur alone; as its combinations with alkalies were often irritating and even dangerous to administer internally in full doses. Within a few days he made an elegant solution with glycerin. Since that time he has experimented with many substances, and has succeeded in producing most perfect solutions, *directly* and *indirectly*, of pure sulphur without alkaline or other combinations, in various menstrua. Among them are glycerin, albolene, vaselin, stearin, margarin, oltein, paraffin oil, lanolin, olive oil, kerosene, naphtha, etc.* An account of the values of these combinations will be given next month.

Unquestionably, some of these will not only prove to be valuable substitutes for *ichthyol* in the treatment of many diseases, but will often surpass it in efficiency; and certainly the exceedingly low price at which such substitutes can be produced will make them more generally available. Ichthyol's greatest value is probably derived from the perfectly soluble sulphur which it contains.

Not having the facilities for producing large quantities it has thus far been possible to obtain limited amounts only for experiment.

In this paper a few notes from the practice of others will be recorded, the writer's personal observations being reserved for the next article on this subject. The first case comes from the practice of a physician of large hospital experience; the other patients were treated by Dr. W. W. Scott, of Harlem, with local applications of the glycerin sulphur solution on account of its known germicidal power. The glycerin solution of sulphur gives off more of the sulphuretted hydrogen odor than most of the others, and is better for a certain class of cases.

NOTES OF TYPHOID-DYSENTERY CASE TREATED WITH SOLUBLE SULPHUR.

"B. U., æt 21. Physical condition excellent. First taken sick on Aug. 10th, characteristic symptoms appearing two days later. Stools ranged from 30–40 in the twenty-four hours. Great prostration, restlessness and emaciation followed. Patient kept partly under morphine, administered hypodermically, and plumbi acet., ipecac and calomel given internally, while the lower bowel was daily washed out with warm antiseptic lotions, combined with astringent injections. Heat to abdomen and absolute rest insisted upon.

"The twelfth day of disease showed no im-

* Although known to be soluble in oils, yet the very large percentage of sulphur dissolved in these various menstrua, including oils, by Mr. Hill, has not hitherto been obtainable.

provement but on the other hand death being imminent.

"All treatment was stopped save opium. Now I resorted to internal administration of soluble sulphur which I considered would exert a favorable action on intestines, even if only acting as an admirable disinfectant. M. iii. in capsules gradually increased to M. vi. was administered every four hours. In two days the stools were reduced to ten in twenty-four hours and restlessness in a great measure subsided, while the sunken aspect of face brightened considerably. Treatment was continued and each two days showed constant improvement. By careful observation I had noticed that the period of two days each time brought with it improvement. This we might think was malarial periodicity, but that disease was not present. I, myself, believe the sulphur acted in that manner, but knowing so little at present would not venture to say. Patient is still under treatment, getting m. i. sol. sulphur every three hours. His condition is excellent, temperature $98\frac{8}{10}$, two stools in twenty-four hours and willing to eat his own hide."

REPORT OF CASES OF PERTUSSIS TREATED WITH SOLUBLE SULPHUR.—W. W. S.

Case I.—Duration twenty days. Bella T., female, æt. seven years. General health fair. Patient seen for the first time on Nov. 5, 1896, characteristic whoop begun two days later. Following each paroxysm (which numbered eight to twelve in twenty-four hours), there was excessive vomiting. Child was allowed the freedom of the apartment rooms during the day, and at night was put to sleep in a bedroom that was well aired during the daytime, closed toward evening, and lastly, thoroughly disinfected with the carbolic acid spray.

Dr. J. R. Wood's suggestions of soluble sulphur impressed me so much that a test trial was made on this case with the following results:

The solution of sulphur was swabbed on tonsils and pharynx daily for three days, then for a period of ten days on pharynx daily, alternating each day with an application on the base of the tongue. This latter application absorbed readily and proved quite as effectual as that applied elsewhere with difficulty, and later on was used solely each day for one week when patient was cured.

The effect of the sulphur the first few days reduced the paroxysms in number greatly (2-3 being the average during the twenty-four hours). The severity of the spasms the following ten days was markedly lessened, and averaged in number one to two in the day. Before the tenth day arrived the distressing vomiting ceased, and by the end of an additional week patient was allowed to play on the street.

Case II.—Duration 14 days. Lester E., æt. two and one-half years. Physical condition good. Patient was seen January 15, 1897, on which day the paroxysms commenced. Child had a temperature of 103°, pulse rapid but rather strong. The spasmodic whoops were frequent (one every two hours) and convulsive in character. The arrangement of the household prevented disinfection, hence constant ventilation was enforced.

Here again soluble sulphur was the sole treatment employed, and given to child in same manner as Case I. Not until the second day was there any change noticed, and that but slight. On the night of the third day child's temperature was about normal, marked diminution in frequency of laryngeal spasms (one whoop in six hours). Each day showed some improvement until the morning of the tenth day, when child had several paroxysms, the last of which being followed by an exhaustive spell of vomiting. An application of the sulphur was then made upon patient's tonsils, pharynx and on the base of tongue, resulting in the reduction of paroxysms to one in the twenty-four hours, so that on the fourteenth day of the disease the whoops ceased entirely.

Group III.—The following subdivision of cases which I am about to report proves to me most satisfactorily the clinical efficiency of soluble sulphur. Here I was able to watch its effects daily in comparison with other treatment given different patients of same family at same time, all being equal in severity:

All these cases were seen on Feb. 5, 1897, for first time. The disease was then in the profuse catarrhal stage, whoop beginning two days later.

Case A.—Duration 41 days. Charles H., æt. 7 years. Health good, well nourished. Paroxysms averaged 6-7 in twenty-four hours, occurring mostly at night. While they were most severe in character, patient seemed perfectly well during the interval. This patient was placed on:

TREATMENT.

℞. Vini Ipecac	ʒ v
Spt. Ammon. Arom.	ʒ viii
Tinc. Scillæ	ʒ ii
Tr. Opii. Camph	ʒ iv
Syr. Tolu	℥ iss
Aq. Camph. ad	ʒ iv

Sig. ʒ iq., 4 hours.

Later on ʒ iii of Ammon. Brom. took the place of tinc. scillæ.

The third day showed slight improvement, but seemed apparent only, as under three weeks of this treatment practically no decrease in number or intensity of spasms was noticed. Ammon. Brom. ʒ iii was substituted for scillæ, with only slight improvement under week's treatment. Soluble sulphur cleared symptom in ten days.

TREATMENT.

Soluble sulphur administered as in Case I.

Case B.—Duration 19 days. Lucy H., æt. 4 years. Health good, well nourished. Paroxysms came on about every four hours, of a violent nature and causing almost complete exhaustion. Patient suffered headache and fever. One attack on second day was followed with bleeding from nose and eyes. This patient was given soluble sulphur as in Case I. No improvement took place until fifth day, and each day brought a change, so that on the thirteenth day of treatment patient suffered but one attack in twenty-four hours. On nineteenth day paroxysms ceased.

Case C.—Duration 32 days. John H., æt. 2 years. Health good, well nourished. The number of whoops in this case were more than four or five in twenty-four hours, but each effort was followed by spell of vomiting. Child was given:

TREATMENT.

℞. Antipyrin.... .. ..gr. iii
Q., 6 hours.
℞. Acid Carbol..... gr. xii
Spt. Chloroform..... ℥ xv
Tinc. Belladon..... ..... ʒ i
Iodin.... .....℥ x
Syr. et. aq .....ad. ʒ ii
Sig. ʒ iq., 3 hours.

which controlled intensity of spasm from the start, but did not reduce frequency of attacks. Patient went on with this treatment for a period of thirty-two days before the distressing whoop ceased. One week later a return of the spasms appeared, which in three days were stopped with applications of soluble sulphur.

CONSERVATIVE SURGERY OF THE RECTUM.

By George Boice Durrie, M.D.
Attending Physician Metropolitan Hospital.

HAVING given particular attention for several years to the treatment of diseases of the rectum by methods quite unlike those employed by most surgeons, I feel justified in writing on the subject, in order that it may be seen wherein lie the advantages of pursuing a conservative course in the operations peculiar to this region. And in using the word conservative it must not be understood that I mean to convey the idea that the cure, following the conservative course, falls short in any degree of being complete and radical. On the contrary, the results are as permanent and satisfactory as those obtained by following any of the methods in more general use, while the points of superiority are, in my humble opinion, very manifest. Although I myself am so well convinced of the advantages attending the course of treatment herein set forth, I do not for a moment suppose that my conclusions will be accepted without objection. Some men will say, no doubt, that the procedure is too uncertain in its effects; others, that there is not enough surgery about it; while still others will say that in following it there is danger of outside complications. But I challenge any one to show better results, taking all things into consideration, than those which follow what I have chosen to call *conservative surgery*. And results alone should, in my estimation, measure the efficacy of our treatment.

It is not to be denied that rectal diseases are successfully treated by other methods than those here advocated. Hemorrhoids, for instance, may be removed by the crushing process, by clamp and cautery (either method, in my opinion, a barbarous one), or by ligature, not to mention a number of other devices for this purpose, all of them more or less objectionable.

The treatment of hemorrhoids by ligature, which I have seen used in many cases with very good results, is by far the most satisfactory of them all, but the treatment by injection, which I endeavored to describe in a previous article, presents so many favorable features that I have no hesitancy in claiming for it a superiority over all others. It is my purpose in the present article to call attention particularly to the treatment of anal fistula by means of the silk or elastic ligature, rather than by the knife. And if it be asked what advantages are gained in using the ligature instead of the knife, I reply briefly, as follows: In the first place we avoid the infliction of pain, and so the need of an anæsthetic; in the second place we escape the danger of hemorrhage, an advantage not to be thought lightly of in many cases; and in the third place we are able to give the patient the chance of being up and about, while undergoing treatment, a chance which the patient himself is not slow to appreciate. Furthermore, many persons will submit to an operation by ligature who would *not* consent to be operated on with the knife. *These* are the advantages that the treatment by ligature offers to the surgeon whose wish it is to effect a radical cure in the surest possible way, with the least possible annoyance to his patient. Before proceeding to describe the manner of using the ligature, let me briefly enumerate some of the causes that tend to the frequent formation of fistulæ in this particular region. An abscess just outside of the anus is in most instances the starting point of the fistula, said abscess being the result either of violence, or of exposure to damp and cold, as sitting on damp seats after violent exercise, when the parts are hot and perspiring. Injury to the mucous lining of the rectum, produced by hard and costive motions, may also lead to the formation of an abscess. Rectal abscess may develop rapidly, in which case there will be quite severe pain with considerable constitutional disturbance, or it may be months in formation and be perfectly painless, the only evidence of the abscess being a boggy enlargement at the side of the anus. These latter cases are likely to result in the worst form of fistula, because being painless they are neglected and the pus is left to burrow up the side of the rectum for some distance and under the skin toward the perineum or buttock.

In the rapidly forming abscess, on the contrary, the attention of the patient is at once directed to the part, owing to the pain and general disturbance, and after poultices have been applied or fomentations the abscess is opened, or as very often happens, opens spontaneously, and the patient experiencing relief from all the unpleasant symptoms, fancies his trouble is over. The cavity seldom closes, however, owing to the almost constant mobility of the parts, caused by the action of the bowels, and the movements of the sphincter muscles, and, sooner or later a fistula is developed. The presence of much loose areola tissue and fat in the parts about the rectum, and the fact that the blood vessels are not so well supported as in other regions of the body, also

tend to the degeneration of an abscess into a fistula. The most important factor in the case, however, is the unceasing activity of the sphincter muscles, and to overcome this activity by forcible dilatation should be our aim, for by so doing the cavity of the abscess, provided there has been no extensive burrowing of pus, can be made to fill up as rapidly as in any other part of the body, and there will be no resulting fistula. This fact, however, seems not to be well understood, though its importance in the treatment of a rectal abscess cannot be over-estimated.

In a simple complete fistula there are two openings, an external, generally not far from the margin of the anus, and an internal, about two inches or so within the rectum. Occasionally there will an external opening, but no internal, constituting what is known as a blind external fistula. And again there may be an *internal* opening, but no external, this being known as a blind *internal* fistula. The latter usually results from an injury to the lining membrane of the rectum, or from an abscess in the connective tissue, and is apt to occur in those who are predisposed to phthisis. Of course there are many deviations from these simple cases, as when there are several external openings or as when the sinus encircles the anus, burrowing underneath the sphincter muscles constituting what is known as a *horse-shoe* fistula, but they are all equally amenable to treatment by the ligature, provided the operator has the required skill and patience; lacking these, ill results may follow in complicated cases, and the ligature be unjustly condemned, for in all probability the trouble has arisen from the fact that the surgeon has not exercised due care and perseverance, rather than from any fault of the ligature. To *Dittel*, of Vienna, undoubtedly belongs the credit of bringing into notice the advantages attaching to the use of the elastic ligature in the treatment of fistula, and Allingham, in his excellent work on diseases of the rectum, pays tribute to him when he says: "I can truly say that I have over and over again been very glad that the utility of the elastic ligature had been brought forward by Prof. Dittel, after it had quite fallen into oblivion." While very willing to admit that he finds the ligature exceedingly useful in a good many cases, Allingham does not depend upon it to the exclusion of other means, considering that in some cases the knife is preferable, but with all due deference to so distinguished an authority, I firmly declare my belief that there are no cases, however complicated, that may not be successfully treated by means of the ligature as the main reliance.

In examining for a fistula the patient should be placed in the position I recommend for all rectal work, viz.: on the left side, near the edge of the table or couch, with the knees well drawn up. A slight discoloration of the skin may indicate the point of the external orifice, if there be one, and into this orifice a probe, held very lightly, should be introduced, and passed on, allowing it to almost find its own way, directly into the bowel, through the internal opening which will generally be found to exist. If *not*, with a finger of the disengaged hand in the rectum, the point of the probe can generally be felt through the mucous membrane, and, a little force will push it through, thereby converting what was a blind external fistula into a simple, complete one. A practical point in examining for a fistula is, never to introduce the finger into the rectum until *after* the probe has been passed, for if introduced *before* the pressure of the finger will cause contraction of the rectum, and render the finding of the internal orifice much more difficult. If the fistula be not deep, a probe pointed director may be passed into the external opening through the sinus and the internal opening, and the point brought down with the finger out of the anus. In this position it is comparatively easy to pass an eyed probe, armed with the ligature, along the groove of the director, and thus enclose all of the intervening tissue. If the fistula be a deep one, running underneath the sphincter muscles, it will not be possible to introduce the ligature in the manner just described, but it can always be done by the exercise of patience and ingenuity. As the deviations in the course the sinus may take are almost numberless, it would be out of the question to attempt a description of the various devices resorted to at times to get the ligature in place. Suffice it to say that a *probe*, of extra length if need be, which can be bent so as to adapt it to the peculiarities of each individual case, is as a rule the only instrument required for our purpose. An elastic ligature, in the shape of a small, round, rubber cord, answers best in most cases, inasmuch as with this a steady and continuous pressure is kept up. When drawn through the sinus it is made as tight as can be borne without pain, and the ends being passed through a perforated pewter button, are held securely by pinching the button with strong forceps. Once in place it will seldom need readjustment, unless the amount of tissue involved be unusually large, and contrary to the general belief, the healing process follows so closely upon the cutting, that by the time the ligature has cut its way out the wound will be nearly healed. If a silk ligature be used it will be necessary to tighten it every day, but this can easily be done by fastening a new thread to the old one while it is still in place. Then cutting the old thread, draw the new one through the sinus, and make it as tight as may be necessary. Very seldom is any complaint made of pain from the ligature; in fact, its presence is scarcely noted. It does its work surely but quietly, and the cure is complete, in most cases, in from one to two weeks, the patient having been up and about during the entire period. I am well aware that exception will be taken to some of my conclusions, but I feel sure of my ground, and to the patient operated upon no argument will be needed to prove that the advantages all lie in the line of *conservative surgery*.

The *Canadian Journal of Medicine and Surgery*, of Toronto, for September, comes to us as the "illustrated British Medical Association number," and it is the work of a master in journalism. The reports of the meeting are concise, clear and most interesting. Such of our readers as desire to read the doings of this great meeting should send for this number, enclosing 10 cents.

THE TREATMENT OF PNEUMONIA IN CHILDREN WITHOUT DRUGS.

By Elmer Lee, A.M., M.D., Ph.B., New York.

THE child who is used, in this contribution to the subject of the treatment of pneumonia in children without drugs, came under my care just one week ago. A telephone message was received on the evening of the 18th inst., to visit H. R ——, aged 15 months, a boy, who was found upon my arrival with symptoms indicating laryngitis. On the following day symptoms of bronchitis were plainly recognizable, and on the second day evidences of double pneumonia were unmistakable. The child had been exposed to whooping cough, and it was therefore suspected that the affection consisted of that disease. For two days following the initial attack nothing in the way of aliment was able to be retained by the stomach. At this stage it would have been unwise, even dangerous, to force foods against nature's signal to desist. The cough and the spasm of the muscles of deglution was extreme. Each paroxysm of the cough created in the minds of the parents the gravest foreboding. The temperature of the patient when first seen was 101°; the pulse rapid, and respirations were more frequent than during an ordinary fever. The treatment of this case will explain the method followed in such diseases in my practice.

Two incidents occurred which are to be regarded as agreeable and disagreeable. On the evening of the first day, that is, at the end of the first twenty-four hours of the treatment instituted by myself, the mother, who loses her mental balance on slight provocation, decided that as her own childhood had been watched over by a homœopathic physician, that her belief in homœopathy for children was greater than in the method employed by the physician who was attending the baby. Consequently against the judgment of her cool-headed husband she was permitted to summon a homœopathic physician who resided in the neighborhood. The doctor inquired upon his arrival what had been done for the child, and, to his credit, remarked that the treatment which had been practiced by myself was regarded as scientific and successful, but as he had not had any experience in that line, and as he had had favorable results by the method which was used by him in practice, he preferred to follow that which he understood best. By his orders the child was swathed in cotton wool, previously partially saturated with lard and turpentine. Baths were decided to be inexpedient and the protection of the body against exposure was provided by an extra supply of blankets. The child had during the ensuing night more frequent coughing, greater restlessness and scarcely any sleep.

On the following morning a telephone message was received by me again to visit the child. The father and mother had agreed that their child would be safe in my hands. The case was resumed without any comment, and the former method of treatment was again taken up. On the fourth day, however, notwithstanding the fact that the temperature of the child was normal, though the cough was severe, the mother lost her equilibrium again, and the father sympathizing with her fears, was himself a little in doubt as to whether the treatment which had been given his child was suitable for one so young in years. My sympathy was appealed to, and requests made for permission to again send for the homœopathic physician for a consultation. Agreeable to their wishes, the consultation was arranged for the following morning at 10 o'clock. The child at this time was free from fever, bright, respirations deeper, the pulse stronger, and the auscultation signs were much improved. It is my privilege to state that the consultation was harmonious and resulted in complete victory for the child treatment and doctor. The consultant, fortunately, admitted to the family as well as to me that it was not in his power to offer a criticism or make a suggestion; in fact, he stated that his only suggestion had been anticipated when it was stated that the child was to receive a portion of a raw egg as a part of its regular food.

The case to-day is entirely convalescent and practically able to be discharged from further professional care. It is my desire further to state that this is the first instance in my professional career of a consultation with a homœopathic practitioner, and if other consultants can be found in the homœopathic school who are able to make such a favorable impression upon me, both as to medical acquirements and gentlemanly conduct, it would not be long until "orthodox prejudices" would altogether disappear. No physician could have been more loyal to the general well-being of the profession and to the little patient whose case was under consideration than the gentleman who represented the homœopathic school.

The treatment of this case which represents the therapeutics followed in such cases is as follows: There was administered to the child during each twenty-four hours ½ to ¾ of a litre of pure, soft water (distilled water). The child received at intervals of three hours during the time of the fever full baths of tepid water. During the first bath of the morning the bowels were irrigated by introducing into them one pint of tepid, soapy water. After each bath the child was laid between blankets and the water on the surface of the body allowed to be evaporated by the abnormal heat. Cold compresses were laid across the chest and changed as often as they became warm. A wet pack of cold water was applied to the throat and kept in place by a flannel binder.

The medicine, which was given at hourly intervals, consisted of inappreciable doses of codeine, with some water, barely sufficient to slightly allay restlessness and quiet the movements of the child. The doses of codeine were prepared by dropping into a tumbler of pure water a hypodermic tablet consisting of ¼ of a grain of codeine. No other remedies were given, no stimulants, no expectorants, no demulcents, no hypnotics, no narcotics, nor sedatives; in fact, nothing else than what has been explained above. The child is to-day, the seventh day of the dis-

ease, in a vigorous and rapidly convalescing condition.

The method pursued, if not interfered with by the over-anxiety and mistaken fears of the family and friends, will produce results very nearly uniform with that which has been related. It is a safe procedure; it is quick, and the result is one which is scientifically demonstrable and dependable.

10 West 49th Street.

PUERPERAL SEPTIC INFECTION.

By Charles N. Miller, M. D., Flanders, N. J.

PROPHYLAXIS AND TREATMENT.

In the light of the revelations of modern science it seems possible to make the following statements, and to support them by evidence as conclusive as can be brought to bear upon medical subjects:

1. Puerperal fever, so called, is not, contrary to the opinion so widely held at one time, more especially on the continent of Europe, a specific disease peculiar to women in the lying-in condition. It is allied to and in fact is exactly similar to any other of the septicæmic or pyæmic conditions with which medical men have to deal, and which arise more commonly in connection with surgical affections, and are sometimes said to occur "idiopathically."

2. The disease is not in any sense "specific." It is due to the activity of the lower forms of life included under the general head of "micro-organism;" and there are a number of these which, introduced into the body under favorable conditions, may give rise to symptoms to be classed under the general head we are considering.

3. The cause of these symptoms is never developed in the body of the affected woman. The normal course is recovery without disturbance of the animal economy, and any variation from this course must be ascribed to the introduction of some powerful disturbing influence from without.

4. It does not necessarily require the growth of micro-organisms within the body to produce this result, although this is almost invariably the case; but the introduction of the products of this growth—the ptomaines or the leucomaines—may produce the changes to be observed, although these products do not and cannot occur without the previous growth of the organisms which give rise to them; so that the symptoms may be due to a double cause. The growth of the bacteria and the overwhelming of the system by their numbers, or the toxic effect of the alkaloids produced in the course of their growth; and these two influences may act independently or together.

5. As a corollary it follows that if the morbific principle be kept out of the body, no disturbing reaction will occur; that the channel of entrance is most commonly through the genital tract; and that the carrying agent is unquestionably very commonly the infected hands or instruments, introduced wantonly or of necessity into the vagina or uterus at a most receptive stage of their existence. There is not much of the mysterious in the matter, and no necessity for supposing the intervention of an angry Providence in order to avoid the consequences of personal responsibility. The attendants are usually the ones responsible for the occurrences of the untoward symptoms. (*Am. Syst. of Obstet.*, Vol. 11, pp. 401–402.)

How is it proven that bacteria are connected with disease as casual factors? What is the evidence required upon such a subject in general and in regard to the special affections under consideration?

The following steps are always necessary: (1) The constant occurrence of micro-organisms in the lesions of the disease under consideration. (2) Their isolation from these lesions and observation as pure cultures under artificial conditions outside of the body. (3) The production of similar lesions to those in which they were first found upon inoculation into animals susceptible to the disease. These are the main points. Have these conditions been fulfilled in regard to septicæmias and pyæmias in general, and the localized clinical affection called puerperal fever in particular? The answer is emphatically "Yes"—that it is in these very processes that our knowledge of the specific pathogenic properties of bacteria is most extensive and most accurate. (*Vide supra*, 416.)

In the production of such affections there are several conditions necessary, all of which are fulfilled in this case. There is required, first, a channel of entrance; second, a receptive condition; and, third, an active poison capable of producing results, the first two conditions being fulfilled.

The channel of entrance is furnished even in case of normal delivery by the temporary denudation of the placental site of its protecting membrane. This loss of the protecting power may be only temporary and of exceedingly short duration, but that it occurs in all normal parturient processes in the human race is distinctly proven by the best recent embryological researches. Actual wounds constantly occur also, even in what are called normal deliveries, by the stretching and consequent tears produced, and that may occur throughout the vaginal tract—tears so small and insignificant they produce no effect whatever of themselves, but quite large enough to present a means of entrance to such minute organisms as are bacteria. The second condition, that of receptivity, includes all those causes that tend to lower the vital forces, even for a short time only.

This lowering of the vital energy is a prerequisite to the beginning of any disease of whatever nature, and may arise from almost innumerable causes of which physical or mental exhaustion is the most common. How, in parturition, both mental exhaustion and physical exhaustion are present always in some degree, the intensity of either varying greatly with the strength of the patient and the physical difficulty of the labor, or with the mental characteristics of the woman con-

cerned. Here, then, are present—and unavoidably so—in every case the conditions most favorable to the entrance and activity with their disastrous effects of bacteria or their products; lesions permitting their entrance and the depression of vital energy allowing them to multiply afterward. The lesions are unavoidable, and the simple exhaustion following the muscular exertion of the expulsive act equally so.

Therefore, it is that a parturient woman is in the same condition as a patient after a surgical operation, and the genital canal offers a more or less easy method of entrance to any poison in any form that will originate either a local or a general disturbance to the system, and therefore puerperal fever may be distinct, clinically speaking, but may with equal certainty be any form of septicæmia, pyæmia or sapræmia (a name applied to those forms of infectious wound diseases produced by bacteria and with foul smelling putrefactive products), and may be due to any of the living ferments that are known to set up these processes. That it is not, in the vast majority of cases, due to an unorganized ferment, a chemical poison, is shown by the fact that, as a rule, the symptoms are general rather than local, and that these symptoms can only be produced by something that is capable of reproducing itself. (*Vide supra*, pp. 422-423.)

With the above quoted facts on the etiology of puerperal infection, we will now consider the first head of our subject, namely, prophylaxis, or the means we employ to prevent the occurrence of any infection in the puerperal woman.

The means employed are founded upon the same principles and facts that form the foundation of aseptic or antiseptic surgery.

When it is possible the modern surgeon endeavors to so surround his patient that he, the patient, does not become infected, and he uses various means according to circumstances. Cleanliness, absolute and positive, is the essential element of all asepsis. If we can be sure by mechanical means we have removed all germs we can operate, and then by occlusive dressings prevent any subsequent entrance of germs of sepsis, and have the wound heal without disturbance to the general economy. In obstetrics we have to apply these principles, modified by the peculiarities surrounding the cases in view. It is impossible to produce absolute asepsis in the vagina by mechanical means; by mechanical means I wish to be understood as meaning washing with soap and water and the use of a nail or other brush—not by the use of chemicals. We are, therefore, compelled to resort to the killing power possessed by certain drugs over bacteria.

We now have an element of danger introduced, namely, that most of the drugs used as germicides are detrimental to the human organism when used in concentrated solutions. We therefore find it necessary to use the solutions well diluted, and not too large a quantity at a time, nor repeated too frequently. How shall we make our patient safe from infection during the puerperal condition?

Obviously, by preventing the approach and entrance of germs into any of the wounds that are unavoidably produced during the parturient act. The modes of approach are through the hands and clothing of the attendants; through instruments used during the confinement or subsequently; through the bed clothing and the clothing or hands of the patient herself, and through the air. The attendants should not have been in attendance on any septic cases (or have been performing autopsies) or on diphtheria, scarlatina or other dangerous infectious disease. If compelled by circumstances to attend a case of confinement while treating any infectious or septic disease, the most rigorous antiseptic precautions must be observed, not only in cleansing of hands, but bathing the entire body and changing the clothing must be done. In taking the bath it is preferable to use corrosive sublimate in the water, strength 1-10000; the hair and beard should also be carefully washed. The hands of the attendants should be scrubbed with a nail brush in warm water and soap, soft soap being the preferable kind, for at least five minutes; then clean under and around the nails carefully with your penknife or a nail cleaner; then wash your hands in a solution of corrosive sublimate 1-1000 or 1-1500, scrubbing with the brush as before for from three to five minutes. Make your examination while your hands are still wet with the antiseptic solution without touching anything with them.

Have a solution of corrosive sublimate by the bedside, 1-2000, and always immerse the hands in it before examining. Do not make any more examinations than are absolutely necessary. If the nurse touches the patient she should use exactly the same care with her hands as the physician.

Instruments are best made aseptic by boiling in a 1 per cent. solution of soda carbonate for fifteen to thirty minutes.

The patient should have a complete warm bath on the first advent of labor, and take a vaginal douche of creolin, 2 per cent., in warm water. The external parts had better be bathed with corrosive sublimate solution, 1-2000, allowing it to dry on.

The vaginal douche may be repeated if the labor is very tedious and prolonged. The patient should put on clean clothing after her bath.

Do not allow the patient or any attendant to make any vaginal examinations. After the child is born see that the placenta and secundines are all carefully removed without putting the hand into either the vagina or uterus, if possible to avoid it.

Carefully repair all lacerations of the perineum if sufficient to be of any consequence, give the patient a vaginal douche of corrosive sublimate, 1-2000, or creolin 2 per cent., and apply an aseptic pad to the vulva. The pad must not only be aseptic, but impregnated with an antiseptic, namely, corrosive sublimate, 1-2000.

If it is necessary to perform any of the obstetric operations, it is essential that the vagina be rendered as nearly aseptic as possible. This cannot be done by simple douching, but the vagina must be thoroughly scrubbed with an antiseptic solution, a new antiseptic tooth brush being the proper instrument to perform this with.

If the uterus has been entered, or the child has been dead long enough to be partially decomposed, the uterus should be carefully washed out with solution of either corrosive sublimate, 1-8000, or carbolic acid, 1-50, or creolin, 2 per cent. During the puerperal period, unless a chill or a rise of temperature should indicate it, no douching, vaginal or uterine, is needed, absolute cleanliness about the patient and bathing the vulva with carbolic acid solution, 2½ per cent., being sufficient. As to the relative merits of the different antiseptic solutions, namely, corrosive sublimate, carbolic acid or creolin:

Corrosive sublimate solution in strength from 1-2000 to 1-8000 is the more powerful and the more effective. It, however, renders the patient liable to poisoning if a large quantity is used, or the douche is too frequently repeated. Quite a number of cases have been reported of death from mercurial poisoning following the use of corrosive sublimate douches in the puerperium. If we use it we should be very cautious, not using too greath a strength or too great a quantity.

Carbolic acid in water solution in from 2 per cent. to 5 per cent. strength is quite efficacious, but not quite so much so as corrosive sublimate solution. It, too, presents the disadvantage of being poisonous if too large quantities are used, or the douche is repeated too frequently. Creolin in from 2 per cent. to 5 per cent. solution is said to be as active a germicide as carbolic acid in the same strength, and presents the advantage, according to those who have used it most extensively, of being non-poisonous. I am not cognizant of any cases of creolin poisoning having been reported. The disadvantage is that it makes an opaque, creamy emulsion and conceals the color of the discharges. It has one very decided advantage in that it is oily, and makes an excellent lubricant for the hands and the instruments. The treatment of puerperal septic infection is local and constitutional. I place the local treatment first, as I consider it the more important. The local treatment consists in the careful douching of the vagina, or the vagina and uterus with some of the antiseptic solutions above enumerated. If an abscess forms early evacuation of its contents. The removal of any clots or débris in the uterus, using the finger or a blunt curette with all the antiseptic precautions. Some advise sharp curetting, but I think that operation is still open to discussion, and as it has not been my intention to theorize in this paper, but only to state such facts as may be substantiated by abundant experience, I shall go no further than to mention it. I may say the same as to the removal of the uterus in conditions of sepsis. Laparotomy and drainage may be indicated and necessary.

The indications for constitutional treatment are relief of pain, reduction of temperature and maintenance of the patient's strength. Pain may be relieved by warm applications, hot water, bags, turpentine stupes, etc., locally, and by the use of opium.

In the peritonitis that may take place, use opium as freely as it was used by Alonzo Clark in the so-called idiopathic peritonitis.

The use of salines in the disease, in my limited experience, has proved futile.

The temperature is most effectively and safely reduced by bathing or the wet pack, and by the douching of the uterus and vaginal interior.

Quinine in large doses, 15 to 20 grains, two or three hours before the usual rise of temperature, is excellent.

Acetanilid or phenacetine I have never had the opportunity of trying in this affection, but cautiously used, guarding with a heart stimulant, they are well spoken of. Blisters are of no avail. Counter-irritation by mustard or tincture of iodine I have tried and like very much.

Support the patient from the beginning. Milk, eggs, broths, Valentine's beef juice, bovinine, finely chopped beef, slightly cooked, will constitute the diet.

Use alcohol and the various heart stimulants as indicated. Use your alcohol freely and boldly, watching the effect upon the pulse. Strychnia and digitalis may be mentioned as heart tonics.

In conclusion, the weight of evidence is so strongly in favor of the bacterial origin of this disease, that rarely is there heard a dissenting voice. If this be correct we should be, and we are, able to absolutely prevent the occurrence of this dread and fatal disease, when we have had control of our patient and her surroundings from the beginning or before the labor sets in.

This is proved by the statistics of maternity hospitals, where the disease in question has been almost totally eliminated. Knowing these facts, and we have no excuse for not having the knowledge, how culpable we must feel in the presence of septic infection, aware as we are and must be that the fault lies not with Providence, but with us through our carelessness, neglect or our almost criminal unwillingness to accept the facts so fully substantiated.

CONSERVATIVE GYNÆCOLOGICAL SURGERY.*

By William H. Wathen, M. D., LL. D.,
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WHILE there is probably no department of surgery that has progressed more rapidly or more satisfactorily than gynæcological and abdominal surgery, we are compelled to acknowledge that capital operations are now performed for the relief of diseases of the female generative organs that could be relieved by less heroic measures, and diseases that could have been prevented are permitted to develop into serious conditions requiring capital operations.

A few years ago it was not believed that pus in the fallopian tubes, or in the pelvic cavity, could be removed and the patient cured by any means short of a laparotomy or a hysterectomy. Now

*Read before the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

we are able to cure many of these conditions by means practically devoid of danger. When the French surgeons began the treatment of these conditions by vaginal hysterectomy the results may have been, in many of the serious cases, especially more successful than by laparotomy, nevertheless, the woman's generative organs were sacrificed even more than by laparotomy for similar conditions. Péan and his followers, Richelot, Segond, Jacobs, etc., seldom attempted to remove a pus tube or an accumulation of pus in any part of the pelvis per vaginam without at the same time removing the uterus. There are many cases where it is probably not possible to get the best results in operating for pus in the tubes or in the pelvis without performing total hysterectomy per vaginam or by laparotomy, but recent experience has convinced me that in many cases of this character the woman can be restored to health without removing the uterus or the tube or ovary if healthy, by some form of vaginal incision and drainage. If intestinal adhesions have not formed over the pus cavity, every one would acknowledge that it is safer and better to simply drain the pus per vaginam, provided this will cure the patient, and experience has demonstrated that it will. I contend, however, that where the pus has accumulated in the pelvis after rupture of a pus tube, being shut off from the abdominal cavity by coils of intestines held together by inflammatory exudates, that these are the cases in which the treatment, *par excellence*, is drainage, and the cases that are treated more successfully by this means than any other. I have long since contended in my writings upon vaginal hysterectomy that where the intestines are matted together in an even way above the pelvic pus cavities, that it is better not to attempt to separate the adhesions, for while gas and feces are passing through uninterruptedly, there will probably be no serious trouble from such adhesions, but if they are separated there is great danger of serious injury to the bowels, and if perchance the bowels are in no sense injured by efforts to separate the adhesions, in nearly every case secondary adhesions will form, often in an irregular manner, so that the condition resulting from the adhesions becomes more dangerous than before the intestines were separated. In just such cases Péan demonstrated the superiority of the vaginal method over the supra-pubic method. In cases with large accumulations of pus in the pelvis the operation of opening the pus cavity and draining per vaginam is simple, and there is seldom any excuse for an injury to important structures, the patients recovering from the immediate and subsequent effects of the operation more promptly than by any other means.

It is always best not to open the peritoneal cavity in operating per vaginam if we can succeed as well by not doing so. In nearly all cases of large accumulations of pus in the pelvis, the so-called encysted peritonitis, the pus cavity can be opened from below without opening the peritoneal cavity, and in accumulations of pus in the broad ligaments following abortion or labor there is no trouble in draining by opening the vagina behind the cervix and with the finger, sometimes aided by instruments, opening the folds of the broad ligament until the pus cavity is reached.

There are some cases where the conditions are such that total hysterectomy per vaginam, or an attempt to remove the inflammatory exudations and the pus in the pelvis by laparotomy would almost certainly prove fatal, but such cases may be, in many instances, cured by vaginal drainage with but little danger to the patient, and if not in every instance cured the local conditions may be so changed that a subsequent operation and removal of the uterus and tubes either per vaginam or by the sub-pubic method would not be relatively dangerous.

A few weeks ago a woman consulted me who had as a result of gonorrhœa some years ago suffered with pus tubes. A few weeks before I saw her she had been suffering intensely in the pelvis, with great difficulty in micturition and defecation, and about a week before she consulted me a large pus cavity ruptured into the bowels and pus discharged freely. In an examination the uterus was found immovable and pus was still running freely from the rectum, she having improved but little since the pus cavity had opened into the bowels. In this instance had we performed a laparotomy we would probably have found it impossible to have separated all the adhesions, and would in any event have found the opening in the bowels so surrounded by inflammatory exudations and diseased tissues that it could not have been closed, and would necessarily have to be treated by drainage, using a glass tube and gauze. Had an operation been performed per vaginam by removing the uterus, we still would have had an opening into the bowel, which, just as in the supra-pubic method, would probably have infected the peritoneum. Appreciating the difficulties and dangers to be encountered in a laparotomy or a vaginal hysterectomy, I determined to practice vaginal drainage, and if the woman could not be cured by this means the opening in the bowel would be closed, so that at a subsequent operation, either per vaginam or by the supra-pubic method, the tubes and uterus could be removed without the danger of tearing an opening into the bowel. Fortunately, this woman has made an uninterrupted recovery, and is now in better condition than many patients upon whom I have performed hysterectomy or laparotomy for diseased conditions less dangerous than in this case.

During the last year I have treated many cases by vaginal drainage where pus had accumulated in the broad ligament or where the tubes had leaked and the pus cavity was shut off by an overlayer of intestinal adhesions, and in no case have I had serious results, and in nearly every case the patient has so completely recovered that no other operation will be necessary. It may be that many of these cases could be drained without opening the peritoneal cavity, even where the tube has not leaked into the peritoneal cavity, but is large and adherent to the posterior wall of the broad ligament, or may have caused suppuration in the ovary also, producing the condition

known as tubo-ovarian abscess. In such cases by making an opening into Douglas' pouch, not dividing the peritoneum, we could hug the uterus closely until we get above and behind the ureter and the uterine artery, and then enter the folds of the broad ligament on the side where we have to deal with the pus cavity. The tumor could then be reached anteriorly but behind the anterior fold of the peritoneum of the broad ligament, without opening into the abdominal cavity. Drainage here could be made so perfect that the pus cavity would heal from the bottom, and though we would have a useless tube and ovary they would cause no subsequent trouble.

I have frequently operated for the removal of a pus tube on one side which could be reached by entering through Douglas' pouch into the peritoneal cavity. Through this opening I learned that one ovary and the tube were healthy, and having separated the adhesions upon the diseased side the pus tube and ovary were brought into the vagina, through the vaginal opening, ligated or clamped, and removed. The operation in such cases has not been difficult, and these patients have recovered promptly and have usually remained well.

While the value of vaginal drainage as a preventive treatment against local or general sepsis in the beginning of puerperal sepsis has not been fully demonstrated, I am convinced that by this means the results in the near future will be good, and many cases that would otherwise prove fatal may be cured without leaving any permanent injury. If the disease has extended into the broad ligaments causing firm exudations, we may open the vaginal vault and with the finger separate the folds of the broad ligament, giving free drainage to the infected tissues. The packing of the cavity with iodoform gauze may also aid in the prevention of further extension of the disease or the development of germs.

Pus tubes do not usually result immediately after gonorrhœal infection or sepsis following an abortion; in most cases the tubes are not obstructed until the disease in the endometrium becomes chronic. These are the cases that may be treated successfully by thorough curettage and drainage, removing all the disease from the endometrium down to the mouth of the Fallopian tubes, and in a few weeks the uterus is in a healthy condition, and the inflammation in the tubes may disappear without leaving total obstruction.

It is safe to say that if all cases of pyosalpinx could have been seen while the inflammation was mainly in the uterus, the formation of pus in the tubes could in many instances have been prevented.

There are many physicians who do not believe that by curettage we are able to cure cases of chronic endometritis, or that we are able to, in many instances, prevent the extension of the disease to the tubes, but these men are either inexperienced in this kind of work, or they do not know how to perform the operation thoroughly, removing the diseased membrane from every part of the cavity from the fundus to the external os, even scraping the diseased tissue away from the uterine ends of the Fallopian tubes.

While the operation of curetting and the after treatment is very simple, if one understands exactly how to do this kind of surgery, I have observed that there are probably as many men who do successful laparotomy as there are who do successful curetting. Until a few years ago curettage did more harm than good, because we did not know how to perform the operation, using a dull or wire curette that could not be productive of good, and not cleansing the vagina so as to remove the septic matter which by the use of the curette was carried into the uterus, resulting sometimes in local, at other times, in general sepsis. But if curettage is performed with such care as is necessary in a laparotomy, with the vagina washed as clean as is necessary for a hysterectomy, and the membrane scraped away from every part of the endometrium, there will be no bad results following this work, and the beneficial results or positive cures will be incomparably more successful than that following the treatment practiced in such cases in former years, by uterine applications, vaginal douches, etc.

I should also include in this report the treatment of extra-uterine pregnancy, where there is an accumulation of blood in the pelvic cavity, the so-called pelvic hæmatocele. It has been clearly shown in the last year that these cases are cured more easily and more certainly by the vaginal operation than by any other method. The vagina may be incised behind the neck of the uterus without opening the abdominal cavity, the clots of blood removed, the cavity irrigated and tamponed with iodoform gauze, having previously introduced a gum tube to facilitate drainage. Nearly every one of these cases recover without trouble, and they can even be operated upon, if they are not extremely nervous, without the use of an anæsthetic. Some of these cases can be cured without trouble by vaginal incision, where they would not be able to resist the dangers of a laparotomy; where they would probably die from the shock of a laparotomy, but the shock from a vaginal operation would amount to practically nothing.

THE ARTIFICIAL FEEDING OF INFANTS.

By Edward Ames Robinson, M.D., Philadelphia, Pa.,

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THE subject of infantile feeding and nourishment is one that commands the attention and study of all physicians, by virtue of its great importance and direct bearing on the survival of infantile life and health.

Every physician when brought into contact for the first time with a case of an infant to be artificially fed can not but feel his incompetency to satisfactorily manage the case. Therefore would I urge the indefatigable study of infant feeding, especially as it is so intricate in its many details,

requiring much patient study and experimentation to master.

In the first instance every case where artificial feeding is to be employed should be individualized and studied as such. There is no class of cases where empirical prescribing is more harmful, and positive detriment to the patient is sure to result.

One food will meet all that is desired in a certain case, but in another case the same food may cause gastro-intestinal disturbances, which can not be controlled until the food is changed.

How often have we all seen an infant thrive and give every appearance of robust health after being fed on a diet that has been entirely assimilated. and on the other hand, we have seen another infant that has been fed on the same food lose flesh and grow marasmic from malassimilation. This paradox cannot be attributed entirely to defectiveness in the constituents of the food, but to the powerlessness of the gastro-intestinal secretions to act physiologically and appropriate the various ingredients of the food as a whole, to the nutrition and development of the body. It then becomes our imperative duty to study each case alone and adopt for its use the food that in *toto* will meet the exigencies in the individualized case.

In considering the many factors that are concerned in the nourishment of an infant, one of the most important to keep in mind is the capacity of the infant's stomach. Of this fact very few who have the care of infants have any correct idea.

You will find that the prevailing notion is to let an infant take as much food at each feeding as it wants. The difficulty in overcoming this erroneous and pernicious custom deters many physicians from giving exact instructions to mothers and nurses as to the amount of food to be given at each feeding. But I hold that it is the duty of every physician who really has the interest of his patient that he should have to specifically state to mothers and nurses the exact amount to be given at each feeding, and to intelligently explain the limit of capacity of the infant's stomach.

If this is made a rule of practice and persistently adhered to, you will find that the vomiting of the excess of food, which is so common, will cease, and the infant will be spared the discomfort and oftentimes the suffering of an over-distended stomach. And also the mother will be saved the unnecessary labor of frequent changing of clothing and washing of clothes.

Another prolific source of trouble in the feeding of infants is the too frequent giving of food.

And here again you will have to break down an old prevailing notion that when an infant is irritable and sleepless that it must be given some food.

This fallacious idea is very firmly fixed in the minds of the people in general, and it will require a strong purpose on the part of the attendant to insist that his orders in regard to feeding are strictly observed by those in charge of the infant.

I am convinced, beyond doubt and without prejudice, that more infants cry because the limit of capacity of their stomachs has been overreached than from any other single cause.

Try to teach the mother to closely watch the baby for symptoms, which will be the expressions of any abnormal condition that may exist, rather than to accept that simply a cry is the desire for food. If you will take the trouble to reason with an intelligent and interested mother in regard to the management of her offspring, she will prove an apt scholar and will greatly assist you in discovering diseased conditions, when they really exist, and you will be wonderfully aided in reaching a correct diagnosis and administering proper treatment.

The selection of a suitable food from among the large number of artificial foods is oftentimes associated with much difficulties.

To find a food that contains in the proper proportions the ingredients which are necessary to sustain the normal nutrition of the body and which at the same time is palatable and easily digested is not so easy as at first thought might be supposed.

If we should want to use cow's milk we have the constant fear that bacteria which permeate the atmosphere, and also are found on the hands of those who handle the milk, will contaminate the fluid and thereby give rise to intestinal disorders in the infant. Of course it can be sterilized and rendered thereby entirely free from bacteria, but the necessary labor to the mother and the process of sterilization, being somewhat complicated, it cannot be entrusted to the ordinary mother or nurse ; especially true will this be found among the poor.

But, on the other hand, think of the simplicity of the preparation for feeding of the commercial food. Any mother or nurse, be she ever so inexperienced, can make in a few minutes a food absolutely free from contamination of any kind, sufficient for one feeding, the temperature of the proper degree and containing all the essential elements of nutrition.

I contend that inestimable advantage is secured to the infant by an artificial food closely approaching in its constituents mother's milk.

With cow's milk the proportion of fat, proteids and sugar are variable, and of necessity must continue so because of the various sources of the milk supply.

But in a good artificial food we can have invariable proportions of each ingredient at each feeding, equable temperature and free from chemical changes.

Early this summer, in the treatment of several cases of gastro-enteric catarrh, and later, in a larger number of cases of cholera infantum and entero-colitis, I employed " Eskay's Albumenized Food " exclusively.

My reason for using this special preparation in preference to others was that the results obtained were so uniformly satisfactory that I was compelled to believe that an almost perfect substitute for mother's milk had been found.

In all the cases of the character previously mentioned there was not one instance in which this food was rejected by the stomach.

Being retained in the stomach and being assimilated, it has more than any single agent been the means of saving the lives of infants, that but for the nutrition supplied would surely have died.

SOME REMARKS CONCERNING THE TREATMENT OF LEPROSY.

By W. Thornton Parker, M.D., Groveland, Mass.,

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IN a paper contributed by Dr. Radcliffe Crocker, of London, in the *Lancet* of Aug. 8, 1896, he makes the statement that "the treatment of leprosy is so eminently unsatisfactory that any suggestion which promises to be an improvement on the old methods ought to have a patient and extensive trial."

Of course, it will be impossible to carry out any successful treatment of leprosy without carefully considering the nature of the disease.

McFarland, in his work on Pathogenic Bacteria, page 196, states that while the lepra bacillus has much in common with the tubercle bacillus, there is not the slightest evidence of any real identity.

Daniellson of Norway, the great authority on leprosy, and many other physicians of prominence, among whom we may mention Kapozi, of Vienna, are inclined to believe from the study of the morphology of tuberculosis and leprosy that the diseases *are* identical in character and that their bacilli are modifications of one species altered by their environment.

A very thorough review of this subject is to be found in an article by Dr. Arthur Ransome in the *Lancet* of July, 11, 1896. He states that "Tubercle is the twin sister of Leprosy, the likeness between the two diseases is remarkable and the points of resemblance are so numerous that we are encouraged to draw a parallel between them."

Dr. Ransome is of the opinion that "from a consideration of the decline of leprosy we may venture to make a forecast as to the probable date of the final disappearance of tuberculosis from our midst." He states also that "each affection is characterized by the presence of a bacillus, the two microbes are so similar that they can often scarcely be distinguished either microscopically or by means of tests applied to them; and furthermore that the most striking difference between them lies in their respective points of attack, yet they are both able to attack almost every part of the body."

These disorders, tuberculosis and leprosy, resemble each other closely, or more decidedly stated, are alike in their etiology, in their pathology, in their course and distribution, and yet Dr. Ransome, although he is willing to allow all this, and asserts that they run upon closely parallel lines, does *not* agree with those who claim that they are *absolutely* identical, nor will he accept Mr. Hutchinson's opinion that the distance between them may be "only acquired and temporary."

"Like the bacillus tuberculosis," Dr. McFarland states, "the bacillus lepra probably only occurs in places frequented by persons suffering from the disease; that individuals are infected by the latter less readily than by the former bacilli, depends upon the fact that leprous infection seems to take place most commonly by the entrance of the organisms into the individual through cracks or fissures in the skin, while the tuberculous infection occurs through the more accessible respiratory and digestive apparatus. Once established in the body, the bacillus by its growth produces chronic inflammatory nodes, the analogues of tubercle."

In a paper published in the *Medical News*, two years ago, I called attention to the value of boroglyceride ointment as an external application in leprosy, in conjunction with a thorough alterative and tonic treatment.

In addition to this treatment we have to-day an agent peculiarly suitable for the treatment of tuberculosis, lupus and leprosy—non-immunized horse blood serum.

This agent counteracts the tuberculous destruction of tissues; the most reliable investigations have proved that it possesses great value in mitigating morbid actions of various kinds.

The horse blood serum should be taken from mature animals in robust health without having been artificially immunized. It is advisable to prepare the serum with a minimum percentage of tritresol to prevent contamination.

Blood serum of horses is naturally antagonistic to the tuberculous poison. It possesses "an innate or species immunity, which renders certain species incapable of acquiring a disease which is deadly to other animals." Dr. Burton, of Nantes, takes this ground, and has used the normal non-immunized horse blood serum in the treatment of diphtheria with as good results as have attended the use of the ordinary antitoxin. We believe that the same theory holds good in regard to the use of normal non-immunized horse blood serum in the treatment of scarlet fever, tuberculosis, lupus, and leprosy; in other words, that the quantity required to bring about antitoxic results will not be found too bulky or too slow in its action.

Horse blood serum is a natural antitoxin. Dr. Canasquilla has reported in the *Semaine Medicale*, Jan. 6, 1896 (quoted by the New York *Therapeutic Review*), that he has used injections of "serum" with success in both the nervous and tubercular varieties of leprosy. He has observed the action on fifteen cases, and has noted that after the first injection the local lesions have ceased to advance. The author neglects to state *what* serum was used and how it was prepared.

He reports one case in detail, in which the nodules were absorbed, the skin over them becoming normal in color, texture and sensibility, while the ulcerations cicatrized. The same separative process took place also in the mucous membranes. In another case absorption of the nodules was preceded by softening and suppuration.

Another distinguished investigator quoted by the New York *Therapeutic Review*, in summing up his treatment of 150 cases of leprosy, states concerning its etiology: "It is destitution which prepares the soil, and it is contagion from man to man that fixes the disease in the human organism." Hence he insists that for the best results we must look to the improvement of social and sanitary conditions.

Those who consider that leprosy, lupus, and tuberculosis are members of the same family, are more or less prepared to join with those who accept the theory of unity in disease; for instance the identity of scarlet fever and diphtheria. If we accept the theory that amid neglected sanitary surroundings, either diphtheria or scarlet fever may develop from apparently the same source, we shall be prepared to agree with those who consider that leprosy and tuberculosis are manifestations of the same disease.

Thus we may expect that they will develop in those whose hygienic surroundings are unwholesome, where food is of a wretched quality, incapable of proper nourishment, and where the laws of health receive little if any attention.

Not any one diet, as fish or overindulgence in salt, nor even the use of putrid flesh will induce a recognized disease such as leprosy or tuberculosis.

Diseases like leprosy and tuberculosis owe their origin to a multiplicity of causes. The constitution of the patient has become reduced far below par, not only by his own neglect of sanitary laws but by the carelessness or ignorance or unfortunate circumstances of his parents, grandparents and neighbors.

Where there is poverty and miserable neglect, whether it be in Switzerland or among the Mexicans, in Iceland, Siberia or the Sandwich Islands, we find conditions analagous to leprosy. I have observed this degenerated physical condition among members of our North American Indian tribes, and a visit to the Government institutions in almost any large city will reveal analogous conditions where the constitutional strength is below par and where manifestations of disease, characterized by symptoms simulating tuberculosis, lupus, or leprosy, are not uncommon.

In conclusion, we beg to call attention to a paper by Dr. Paul Paquin on "Serotheraphy in Tuberculosis," published in the New York *Medical Journal* and in the *Journal of the Amer. Med. Ass'n*, and to his invaluable reports published within a few weeks on this same subject.

In the New York MEDICAL TIMES of recent date a paper is quoted from La Cruz ("Arik. de Gin. Obstet. y Pediatra"), in which the author states that he has tried the effect of serum from a healthy horse (non-immunized horse blood serum) on several children in his wards. Doses of from 3 to 5 cm. were injected daily and repeated every day for three or four weeks. The serum seems to act as a most powerful tonic. The red corpuscles increase in number, weight is gained and the child visibly becomes stronger. There is no outward secondary effect except slight rise of temperature and some acceleration of the pulse; there is no erythema and no albumen. A trifling epithelial deposit seen in the urine indicates slight irritation of the kidney and the urine becomes more acid.

These phenomena, however, are really transient. The good effects of the injections are quickly manifested. Cases of athrepsia in particular are speedily benefited and the cure is maintained. What I have attempted to claim as entitled to reasonable consideration is that normal (non-immunized) horse-blood serum introduced into the circulation of patients suffering from contagious and infectious diseases does by the process of mixing a healthy anti toxic fluid with the circulatory fluid on the individual under treatment counteract the march of the tuberculous or other disease, sustain and nourish the patient, and in time, by its action upon the diseased system, bring about a cure.

It is not claimed that this agent is so powerful that it can act absolutely alone, but as the assistant of sanitary science it is probably one of the most valuable therapeutic agents of modern medical science.

Groveland, Mass., August 25, 1897.

VOMITING IN PREGNANCY: TERRIBLE EXAMPLE. —WHAT SHOULD HAVE BEEN DONE.

By CHARLES E. PAGE, M.D., BOSTON, MASS.

PERHAPS there is no period in a woman's life when Nature, that is the living organism, takes the bit in her teeth, so to say, more arbitrarily with the design of having the machine run about right, than during the early weeks of pregnancy. Women, as well as men, at other times may riot in high living, eat freely, and of all sorts of dishes, at all hours of the day, with comparative impunity; but when this wonderful process of the beginning and growth of a new being is inaugurated, the woman is likely to be brought to book. Instead of, as she has been doing, eating for three (that is, eating often as much as three persons of sedentary habit actually need, she is reminded—or would be if the family doctor were fully competent to instruct her, and did his duty in the premises—that she must now only "eat for two," a moderate portion for herself, less or more according to her activities, and a tiny morsel for the tiny germ that is to be nourished. Really, the first indication of nausea or lack of appetite. not to say vomiting, should warn a prospective mother that she is getting a little ahead of her stomach, so to say; and, then, all she has to do is simply to sip a few swallows of moderately hot water occasionally during the day, fasting, to make short and easy work of restoring the balance to the system. I have never known a single case of failure when this plan has been intelligently carried out. As for the length of time for this stomach rest, the question is as simple as this: Take all the time needed, whether it be the skipping of a couple of meals, or fasting for a couple of days. Wait till the stomach is completely tranquil, and the patient absolutely hungry; but hunger

or no hunger the tranquil stomach must be secured, and this without the employment of any bulldozing method, as with "the usual remedies addressed to the stomach," which never, in the true sense of the term, cure the disorder, and when they seem to be working the best the most mischief may be brewing. The pregnant woman who is by artifice helped to swallow a great deal more food than her system requires for its best nourishment is helped into a fat, logy, easy-going state, when she should be encouraged to an appropriate degree of physical training. Instead of sitting about spending most of her time making no end of baby clothes, which, usually, are far in excess of the little one's actual needs, she should avoid the sitting attitude as much as possible; train moderately but sufficiently—the surplus fat off, needed muscle on—and thus become aggressively healthy, in the only way that has ever been discovered. The fewer and simpler the little garments the better for the baby; while the avoidance of sedentary habits is the mother's best safeguard against disease and possible disaster. Of course the thought which naturally arises here in the reader's mind is that it is practically useless to expect the average woman to enter into the true hygienic scheme for high health; but it makes not the least difference in the argument as to the proper treatment for vomiting in pregnancy, be it "black," brown or any other complexion of vomit. The stomach must have rest, and enough of it, while the fluidity of the blood must be maintained; and there is nothing in creation that fills this want except fresh, soft water, of which enough must be swallowed to fulfill the requirements of the system.

The amount will vary from a quart to three pints, in the course of a day, in quarter cupfuls, moderately hot so long as the incipient nausea is present; after this symptom has disappeared it may be taken fresh, in littles, at every occasion of faintness at the stomach, as a cooling and soothing douche, until the patient or her family physician feels that a moderate amount of simple food will be a fair risk, so to say. Then the proper thing is for the patient to try and get the correct gauge as to her digestive capacity, and to abide by it.

Of course, the matter of dress comes in for consideration, and while some women manage to pull through quite well in spite of even tight corsets, none but gets punished ultimately for this and all other sins against nature; while in some cases there is no such leeway. However, it was not the original idea of the writer to enter into the question of the proper regimen in pregnancy, as to all the detail of it, but simply to say enough to make certain principles appear in evidence, as a prelude to citing the terrible example which appeared in a recent issue of one of our standard medical journals, although there was no indication that the correspondent himself had learned the slightest thing from his sad experienee.

Here was the case: The woman was young, about one month advanced in pregancy, and on a certain day was seized with nausea and vomiting. There was no certainty in the minds of the parties concerned as to the existence of pregnancy, as she had gone but a few days over her time, and "the usual remedies addressed to the stomach was administered with only slight palliation of the annoying symptom." The remedy suggested by the writer—the brief fast, with moderate hot water sipping—would doubtless have proved a radical cure, as it has in very many similar instances; but there is no history given indicating that this young woman adopted other than the prevailing practice, namely, to force or tempt the appetite at a time when the organism was saying in the most emphatic language, "Give me a rest, I beg of you, a rest." It is not, therefore, strange that this victim of ignorance went from bad to worse and again sent for the doctor. An examination was made, and revealed an impregnated uterus. What then? "Remedies were immediately addressed to this organ (sic), including cocaine, which had also been given *per os*. No abatement was at any time noticeable, and, although her previous health had been perfect, it required no prophetic vision to forsee the result if the vomiting was allowed thus to continue. Abortion was at once determined upon, pending which the ominous coffee-ground vomit appeared. The operation was hastened and speedily terminated without the least untoward result, hemorrhage being practically *nil*. The vomiting soon ceased, as was expected, and as she was cheerful and apparently doing well, I left, feeling assured that recovery was only a question of a very short time." But, as is so frequently observed in brilliant "cures" effected by measures that on their face represent a direct violation of the laws of life, the patient died! "Within six hours," says the doctor, "I was again summoned, being informed by the messenger that the vomiting had returned. On my arrival I found the black vomit pouring forth almost incessantly and the nausea uncontrollable. Everything possible was done without the slightest amelioration of the dangerous symptom, when, finally, from sheer exhaustion, she died the following morning." Here was a life destroyed, and here is the only lesson, evidently, really of no value, learned by the destroyer, who closes his pitiful story as follows: "This, in my opinion, serves to emphasize the statement of Dr. ———, that nausea and vomiting in a pregnant woman, with the ejection from the stomach of coffee-ground fluid, denote an alarming and dangerous condition." Pray Heaven that others who read this may learn that *this kind of treatment* is alarming and dangerous, and that its prevalence fully accounts for the rise of the mental scientist, faith cure, and other quack remedies.

The above is reprinted from the Philadelphia *Polyclinic* of Oct. 6, 1894, the special occasion of reproducing it being an article in the *Daily Lancet* (Philadelphia) reprinted from the *British Medical Journal*, on "Uncontrollable Vomiting in Pregnancy, Continuing After the Death of the Fœtus," but which, in the present writer's belief, should have appeared under the heading of *Criminal Malpractice with Fatal Result.*

Here is the article:

UNCONTROLLABLE VOMITING IN PREGNANCY, CONTINUING AFTER THE DEATH OF THE FŒTUS.

Fabre notes a case of uncontrollable vomiting in a primipara, 18 years of age, who had previously suffered from anemia and hysteria. The vomiting began at the fifth month of pregnancy and had continued up to eight and a half months with increasing weakness The fœtal heart was not to be heard, yet the vomiting continued and medicinal means were of no avail. It was therefore decided to produce premature labor, and Krause's method (introduction of a bougie into the uterus) was employed. On the day before this was done the patient was so weak as to require injections of caffein and ether and 200 g. of artificial serum into the subcutaneous tissue of the abdomen. Twelve hours after the introduction of the bougie into the uterus a dead female fœtus was delivered by means of forceps. The vomiting still continued and the patient died twelve hours later. The only lesions found at the necropsy were those of recent gastritis. The case is interesting, for the death of the fœtus was not followed by a cessation of the vomiting, a circumstance probably due to the fact that here pregnancy was not the sole factor, but has superadded to it the pathologic state of the stomach.—*British Medical Journal.*

In this case the poor, ill-advised woman had been permitted to go along eating in the usual free and easy way, regardless of all symptoms of excess, as lack of sharp appetite, incipient nausea, etc., etc., until at the fifth month the symptoms became quite serious. The poor overtaxed stomach, instead of having the rest so much, and which alone it, needed was continually harassed with food, the only possible function of which, under the condition present, was to promote "the recent gastritis," the "only lesion found at the necropsy," and which, under the natural and altogether rational treatment described above, would have been short-lived, while the poor lady, who was the victim of her physician's ignorance, might well have continued to live in health, and given birth to a healthy babe.

EXTRACT FROM THE SPEECH OF PROF. BEHRING, OF MARBURG, ON "ÆTIOLOGIC THERAPY FOUNDED ON EXPERIMENTATION"

Read before the 15th Congress of the German Physicians at Berlin, June 10, 1897.

THE following extract from Prof. Behring's speech may possibly prove wholesome food for self-satisfied narrow ones of *both* dominant schools:

"Experimental therapy places itself in conscious opposition to medicinal treatment. Medical science had till now only therapeutic principles without therapeutic experiments, for the effects of the remedies employed were studied only on healthy animals and healthy individuals. Hahnemann was, therefore, not in the wrong when he used as a starting point the manifestations in a diseased individual. In the principle 'Similia Similibus,' modern ætiologic therapy approaches homœopathy, which, only by the manner in which it was put into practice, sank down to a level with charlatanry. The dogma of allopathy, 'Contraria Contrariis,' is proved no better. One seeks to struggle simply against the most prominent symptoms of a disease by the application of remedies. Cellular pathology has been unproductive of utility for therapy, and organtherapy is unable to win a place. Ætiologic therapy starts with the testing of remedies in animals artificially infected with disease. In diphtheria it has been shown, for the first time, that the only remedy which can cure it is produced by the body itself, which thus immunizes itself against diphtheritic poison. It prepares its protecting and curing products from living and dead matters of infection.

"The preventive or protective remedies prepared from an artificially infected organism prove themselves effective also in other animal bodies against like infection. The healing powers of nature are: 1. Phagocytosis. 2. The removal of infectious matters by fæces, urine, perspiration. 3. The protecting wall of the epidermis and the epithelia. Independently of the living body, nevertheless, the antitoxins of one animal produce a curative effect in another.

"The antitoxic energy which is stored up in the organism of a highly immunized animal concentrates itself in the blood serum. Of all the antitoxins up to the present, diphtheria-serum has certainly proved its efficacy. Of tetanus-serum more favorable results would be reported, if it were always kept in stock in hospitals, in order to be used at once. The efficacy of Marmock's streptococci-serum is doubtful, while the tuberculosis-serum of Maragliano contains no antitoxin. Blood-antitoxins are absolutely innocuous for healthy as well as for diseased individuals. It is a question only of technique to remove those constituents which produce the harmful by-effects (Urticaria). The supposition that an antitoxin acts not on the toxin but on the living cell is untenable. Erlick's experiments with Ricin have furnished the proof that an antitoxin neutralizes the poison also outside of the animal body. The living tissue would, however, be harmed by antitoxin.

"All attempts to obtain an antitoxin chemically pure have failed; they are also without prospects according to principle. For the question is not the production of a chemical substance but that of an energy, which cannot be produced. Just as iron is the bearer of magnetic energy, so is the albumin in the blood the bearer of antitoxic energy. With the increasing immunization of the animal body the blood-albumin stores up this energy to a certain degree, but not beyond that. The attempts to obtain antitoxin from toxin by electrolysis have failed. Only the animal body can be used for this purpose. The toxin determines the manner in which the normal blood-albumin is polarized, as it were, but does not enter into the chemical nature of the same. Passive immunization by means of ready prepared anti-

toxins, which produce no reaction, deserves preference over active immunization with direct toxins. At present experiments are being made to prolong the protective influence of antitoxins. Where the poison of the disease is unknown, *e. g.*, in septicæmia, the preparation of antitoxins is impossible. For cholera equinia, splenic apoplexy, the antitoxin, as it can be prepared at present, is still too weak."

Behring then speaks of his more recent experiments to produce a tuberculosis-serum (in cooperation with von Lingelsheim.) The starting point for this was highly virulent dry pine-cultures (Rein-Culturen) of tubercle-bacilli. If we denote the minimum lethal dose per gram weight of guinea pig by M. Behring has succeeded in obtaining gradually a tuberculosis-serum of 25,000 T. M. (T = tuberculosis?) According to this the virulence of Koch's new tuberculin may be accurately determined; it is found to be less than that of the undiluted old.

It might be chiefly employed for primary (fundamental) vaccinations on animals; for therapeutic realization in man it seems less adapted.

Different substances are present in tubercle-bacilli; the energy producing immunity, however, seems to be combined with a single tuberculosis-poison.

Years will yet pass before this antitoxin in the blood-serum of artificially infected animals will have the concentration necessary for practical application. The presage that bacteriology would bring no good to therapeutics has been persuasively contradicted by experimental ætiologic therapy.—*Berliner Klinische Wochenschrift.* No. 28, p. 618-3.

The Passing of Sectarianism.—Not only because it is incompatible with the genius of true science but from the standpoint of ethics, there is no other condition to be so much regretted for its bearing on the American medical profession as the existence of sectarianism in its ranks. Practically, in this country, there is but one which can be said to be missed from the medical profession. There are vitapaths and thaumopaths and electropaths and other by-paths leading nowhere, and there are vegetarians and Christian scientists and faith curists and numerous like faddists whose claims to emancipation from the thralldom of finite reason are cheerfully conceded, and there is the protean genus of venders of secret "sure-cure specifics." These are but incidents, or accidents, in the evolution of scientific medicine. They are essentially parasitic growths, composed, almost without exception, as such as are excluded from fellowship with the profession by reason of personal or professional disqualifications. So-called eclectics have, in many instances, maintained a standing that commands a certain degree of respect. The applicability, however, of the term "eclectic" to a body of men who have segregated themselves from the most eclectic practice possible may be questioned. Unfortunately, eclecticism in the narrow sense seems to mean the choice of unethical methods; certainly in experience this is found to be generally true.

But there is one sect which has a large share of popular approbation, which has maintained a good standard of medical education, which almost invariably has been in harmony with the profession in social and ethical concerns and, of late years at least, co-operated with it in matters of general professional interest. This sect, yclept homœopath, is missed from the medical profession. The fact that scientific men, virtually united in other respects, can esteem the institutes of medicine so differently that the methods of such must appear radical malpractice to the other, is a paradox. When honest, intelligent men working for the same end differ materially in their views, the schism is to be deplored. The rights of independent opinion must be recognized and respected, but, as it now appears, the separation of homœopaths from the medical profession has no basis in a living issue. Scientific medicine cannot give credence to any dogma, nor may it take cognizance of an hypothetical efficiency in matter so attenuated as to pass even the physical limits of molecular sub-division. Neither may it endorse any rules of thumb in the treatment of disease. To do so would stultify science itself by discarding first principles when applying to therapeutics the general laws deduced from all accumulated knowledge.

No guild, cult or profession should be divided without adequate reason in essential difference of opinion. When such difference of opinion disappears, both honesty and policy call for reunion. There is no question of compromise as between bodies originally independent. Schismatics who cannot conscientiously maintain the peculiar doctrines of a sect should return to the ranks of the profession. Unreasoning adherence to dogma obviously precludes progress. The experience of instrument maker, book dealer and druggist demonstrates that most homœopaths, so-called, consistently endeavor to keep abreast of modern medical science, and in medicine it is physiological and chemical laws, not the theories or convictions of individuals, which govern the operation of remedies.

These remarks are suggested by a recent contribution to the *Medical Visitor*, modestly signed by initials only. The writer, who evidently understands his subject, speaks candidly of the disadvantages of separate organization, and deprecates the continuance of a sectarian name. To be sure, he claims the existence of an illiberal spirit on the part of our forefathers. He says:

"I am writing in perfect candor and without a shadow of partisan bias. We may as well face the music and smell the smoke. In the South it is indifference; in the North it is disintegration. Those who do not see the lines breaking, and the homœopathic school being dissolved by internal and external forces, are either too blind to see the facts or too bitterly partisan to admit them. I am not talking about the growth of members nor the expansion of trademarks. Neither do I refer to the science of therapeutics, whose truths are as vital to-day as they ever were. The truth in medicine, as the truth in political economy, will ultimately stand revealed; there need be no shadow of doubt upon that point. But what common ground of belief or of action have the members of the homœopathic school to-day? One man declares the law of similars to be the basis of union; another, high in authority, affirms that the law has a very limited application. Both homœopaths. One position abandons all laws and codes and flies to the orificial religion (not to be confounded with orificial surgery); another rejects entirely as a fraud what honest men of experience know to be true concerning orificial irritation. Both homœopaths. This physician uses the Bracelin treatment in diphtheria; that one employs antitoxin; the other one gives the Lord knows what; each claims well-nigh universal success. All homœopaths. This sort of harmony applied to a business house or to a line of railway would put either in the hands of a receiver in less than six months. The old school, its fingers well blistered from burning homœopaths at the stake, has stopped its crazy methods of persecution and holds out this invitation: Welcome, man of science; never mind your pathy; believe what you please, practice what you like, but don't leave the medical profession and start a sect in anatomy, or chemistry, or therapeutics; and if you have anything better than we know, do not hide it under a bushel, but lay it before your fellow workers.

"The homœopathic school, without a common belief and a uniform practice, is not going to withstand this platform much longer, and no amount of howling and whistling is going to alter the facts in the least. It used to be almost an unknown thing for a homœopath to leave his school; I am not writing of persons, but I can easily name twenty of my personal acquaintances who have gone over to the old school, and might easily name a larger number who would feel perfectly at home on the other side of the fence."—*Ed. Phil. Mat. and Surg. Rep.*

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A NEW THERAPEUTICS.

THE *new astronomy* was born in a laboratory in Heidelberg when Kirchoff and Bunsen in 1859 developed the true significance of the dark lines in the solar spectrum, proving with the most unerring certainty that they are produced by the absorption of the vapors of the same substances, which when suitably heated give out corresponding bright lines. The fact that many of these absorbing vapors are those of substances found upon the earth was one of the first great revelations of the new astronomy, namely, that the same elementary substances enter into the composition of suns and planets throughout the universe.

Would it be strange that therapeutics, linked as it is and as it must be, with the evolution of life in the combination of matter in all its forms, should date its real birth as a science from the laboratory of the psychologist? Dealing with the problems of life, its evolutions and its changes, instruments of the utmost accuracy and of marvelous delicacy register the speed of thought, the effect of the emotions, the durability of brain energy, the speed of mental recuperation, the effect of food on the mind, and, in fact, every condition, normal and abnormal, which can occur in the mind of the living, thinking organism. The molecule and the atom are traced into the depths of the Infinite until they hold in their embrace the unseen and blend with the spiritual in the development and progress of life.

A visit to the laboratory of Prof. Elmer Gates, of Washington, who in practical results has accomplished possibly more than any living psychologist, a study of the delicate instruments by which he is surrounded, and a few hours' conversation with him in which he deals with all the true eloquence of science with facts, not theories, and one is startled by the possibilities he unfolds for the future of our profession, in which may be developed a science of therapeutics in which all previous dogmas are but fractional parts. In working out this problem—the problem of life and death—the most profound and far-reaching researches of science in all its delicate tests must be utilized.

The microscope, with its wonderful resolving powers, so all-important in scientific investigations, has been proved by Prof. Gates to be only in its infancy. The professor has invented a new method of magnification and a new principle of photo-micrography which can be applied to the present microscope and telescope so as to deal with the highest magnified images now made by them, as if these images were the original objects. He thinks the new method will be as great an advance beyond the power of the microscope as the present microscope is beyond the power of the human eye! "While my discovery is yet in its infancy," says the professor, "I have made enough experiments to prove that by means of this instrument I have increased the present magnifying powers at least 300 times. And judging from these results I think I am safe in saying that before I have finished my work, I will have arrived at a far greater result, a result that will open entirely new fields of microscopical science, and may effect changes of a revolutionary character in the domains of bacteriology and histology. No matter what the capacity of the present microscope may come to be, its best magnification will, by the new method, be looked at with a second system of lenses capable of magnifying a small part of that image as much as the first miscroscope magnifies the original object. Perhaps the best work of the present form of the miscroscope is seen in a recent photo-micrograph of a diatom published in the recent work of Van Heurck; it shows the bead-like lines of the *Pleurosigma angulatum* to be hexagonal openings; the magnification is 10,000 diameters. Of course the *area* of magnification is 10,000 times this much, or 100,000,000 times the area of the original object. The bulk is still 10,000 times more than this, or to put it in its most interesting form, the modern microscope can easily furnish us with a photograph of an object magnified to a bulk 1,000,000,000,000 times larger than the original object! It would seem as if this were enough. But it is not. In studying the karyokinesis of a cell we can indeed see the granules, nucleus and chromatin filaments, and even the gross forms of these filaments, but the best lenses will not reveal to us the inner structure of these filaments. We may see the lines

outlining the hexagonal openings of the diatom just referred to, but the present instruments will reveal us naught of the structure of these lines; that is, we are left in stupid wonder at the probable complexity of these cell organs which we cannot quite see.

"It is known that the present microscope has about reached the limits beyond which further magnifying powers need not be expected. But whatever improvement comes to it will be just that much gain to the new microscope, for this new instrument takes this already highly magnified image and selects any small part of that image and applies to it a *second microscope*, which still further magnifies, as though it were an original object, the magnification of the first microscope. I have actually accomplished with the crudest kind of makeshift apparatus an additional magnification of 300 diameters; that is, I have seen a part of the *Pleurosigma angulatum* magnified 300 times 10,000 diameters or three million diameters, which equals 27 quintillion times the original bulk! But the method promises at least 10,000 times ten thousand diameters, or one hundred million diameters, which equals a bulk of one septillion times the original object. There may be practical difficulties in the way of attaining this last result, but I am confident that the practical limit will be far beyond the 300 times 10,000 diameters. We may reasonably hope to become acquainted with the living units of which a cell is composed; that is, with somacules, and we hope to carry much further our knowledge of life and mind. We were ignorant of the histology of animal life previous to the advent of the microscope, and through it we learned that all living things are composed of cells, and that cells are the physiological units of the animal body. My own experiments have demonstrated that they are the psychological units of the animal body. But although we have a knowledge of the gross anatomy of the cells, we know nothing about *their histology*, so to speak, and the new instrument at which I am working promises to open to us this unexplored realm. With its aid I shall be better equipped to study the action of medicines, and forces and foods upon the psychologic activities of cellular life in and out of the animal body, and to more carefully study the question of functional localization within the cell and the constructive and curative action of mind upon its histologic parts."

The professor's experiments are along a line in which all scientists have hitherto failed, that of combining two microscopes in such a way that the magnified image projected by the first microscope is again subject to a second specially constructed microscope and again further magnified. Of the two microscopes used one is of the ordinary kind; for example, a Zeiss sixteenth inch objective with monochromatic light, oil immersion, "and the second is a differently constructed instrument, and must be used in a room wholly dark —a room from which not merely the luminous rays are excluded, but also the most of the dark heat and ultra-violet rays, and special conditions for photographically seeing this second magnification are essential."

It is believed that this same process will be applicable to the telescope. The astronomer as he applies this instrument to a Yerkes or a Lick telescope will read the story of the skies in a language more eloquent and impressive in its revelations than ever before. The professor says: "So far I have simply tried it enough to know that the image of my small telescope can be further magnified by a special second telescope."

The physiologist and histologist in their study of cellular tissues with these far-reaching powers will naturally be led in the medicinal treatment of the psychologic activities of cells to results which will rank therapeutics among the greatest and most positive sciences. It is along these lines that the professor in his laboratory, aided by the appliances of recently discovered science, is working out some of the greatest problems of the age—problems the solution of which will tend to prolong human life, relieve untold suffering, and amplify the domains of MIND to an illimitable extent.

The work is such as should stimulate the philanthropist to contribute with his wealth to those researches which promise so rich a harvest for good in the future.

THE MOSCOW INTERNATIONAL CONGRESS.

THE Twelfth International Congress, for which such ample preparations had been made and which gathered in the old Slavic city of Moscow thousands of distinguished scientists from every department of our profession and speaking every language of the civilized world, has come and gone. The record is not one of great discoveries but a presentation of old truths strengthened by new facts, the interchange of courtesies, the brightening of old friendships, and the formation, especially among the younger members, of new friendships, some of which will prove of lasting value.

The entertainment provided for the members was unequaled in beauty, in interest and in the lavish scale upon which they were conducted, and

were of a character to gratify every taste. Those who were fond of social life and the brilliant display of the city could enjoy the fetes given in their honor in the Northern capital, while those who preferred sublime scenery and historic reminiscences were gratified with a trip to the Caucasus or the Crimea.

Dr. T. Lander Brunton, at the conclusion of his address, paid a graceful compliment to the great Russian chemist Mendeleef. "Practical medicine," he said, "depends on physiology, pathology and pharmacology, and all these are tending to become more and more subdivisions of the wider and all-embracing science of chemistry. It is to a chemist, Pasteur, that we owe the wonderful development of pathology during the last quarter of a century, and we may fairly regard his fellow countryman, Lavoiser, as the founder of the science. Men from all countries, especially Germany, have aided its development, but it seems fitting that at this congress in acknowledging our obligations to this science we should not omit to mention that at its head now stands a Russian, Mendeleef, whose marvelous prescience enabled him to predict the existence of elements which were then unknown, and even to describe their properties more correctly than those who first verified his prediction by obtaining the substances themselves. When we consider that little more than a hundred years have elapsed since the time of Lavoiser, and contemplate the vast benefit which medicine and the allied sciences have derived from chemistry during this time, our hopes cannot be otherwise than great for the centuries to come."

Prince Gallitzen, the Mayor of Moscow, in greeting the members of the congress, announced that the city of Moscow had desired to express in some appropriate manner its appreciation of the great honor that had been bestowed upon it by its selection as a place of meeting of the greatest of congresses, and it had decided to establish a prize of 5,000 francs to be awarded to each international congress, for all time to come, to the person who, in the interval since the preceding congress, shall have done that medical work which shall be deemed of the greatest benefit to humanity.

A NEW SANITARIUM.

IT would be amusing, and yet at no distant day may be an accomplished fact, when many a health seeker will turn from the great regional sanitariums of the world—the Adirondacks, the mountains of New England and Colorado, the Pacific Coast, Arizona, New Mexico and Florida,—to the Dismal Swamp of Virginia, and find there the relief which other resorts have failed to give. The old proverb, "give a dog a bad name and even his good qualities will not be appreciated," may, according to the *Architect and Builder*, also apply to the Dismal Swamp, for it says:

"This hitherto waste and unproductive region has been found, on closer and more scientific inspection, to be by no means as dismal as it used to be depicted in our geographies, and to possess features which ought to make it an attractive watering-place and sanitarium. It is not, as most people imagine, a vast bog sunk low in the ground, into which the drainage of the surrounding country flows. On the contrary, according to accurate surveys, it is above the level ground, some fifteen or twenty feet, and, instead of being the receptacle, is, in its immense, sponge-like bulk, gathering the waters that descend upon it, the source of rivers five of which take their origin within it and flow onward to the sea. The Swamp is entirely of green timber; there is no decaying wood, the two principal woods that grow there being the juniper and the cypress, which never rot. They fall on the ground like other trees, but instead of decomposing they turn into peat, and in that form remain unchangeable and indissoluble. There is nothing in the Swamp to create miasma; no rising of the tides and decomposition of rank vegetables; no marshes exposed to the burning rays of the sun. All is fresh and sweet, and the air is laden with balmy odors. The water is tinged with the juniper to a faint wine hue, and it is thought to possess valuable sanitary qualities. It is often used by vessels going on a foreign cruise, on account of its healthful properties, and also because it keeps fresh and clear for years. Those who live near it are not slow to declare that it is the healthiest place on the continent."

THE statistics of the admissions and mortality of the troops of the invading army in Cuba in the hospitals shows that disease is one of the most potent factors of the rebellion against the power of Spain. During the month of May there were 58,092 admissions to the general hospitals; of these 20,523 died. In the yellow fever hospitals the admission was 814, of whom 226 died. In the general hospitals in Havana on the 1st of June there were 1,709; admitted during the month, 9,931; discharged, 8,708; died, 270; remaining in the hospital July 1st, 5,512; of yellow fever there was, June 1st, 213 patients in the hospital; admitted during the month, 677; died during the month, 170; remaining in the hospital, 331.

THE FRIGHTFUL TYRANNY OF CHRISTIANITY.

ONE of the most powerful and popular novels recently issued from the press is from the pen of one of the greatest novelists of the age, Hall Caine, and is entitled "The Christian." To the question "Is it possible for any one to live a Christ-like life to-day?" he answers: "No! After nineteen centuries Christianity presents the same characteristics of frightful tyranny which disfigured the old Jewish law. What liars we are! How we color things to justify ourselves! Look at our sacraments—are they a lie or are they a sacrilege? Look at our charities—are we Pharisees or are we hypocrites?"

If the distinguished novelist was writing a poem all this might be looked upon as "poetic license" and entitled to special criticism; but on presenting the Mr. John Stern as the typical Christian of our day the author need only glance at the record of work in a single city among the poor to convince him of the unjustness of his criticism. Through the instrumentality of one journal, the New York *Herald*, fifty-five tons of ice a day have been freely distributed among the poor of this city. St. John's Guild alone cared for 43,468 women and children, gave 8,011 salt water baths, and 14,151 hospital days of treatment were given to 1,556 children at their seaside hospital at Staten Island. The staff of physicians provided by the *World* treated free more than 25,000 children. Surely these three items among the large number which might be quoted presents the spirit of Christianity in an entirely different light from that of the distinguished author.

OBESITY.—We are indebted to Dr. William T. Cathell, of Baltimore, for a reprint of his essay on a "Harmless Way to Diminish and Cure Over-fatness," read before the Medical and Chirurgical Faculty of the State of Maryland, and published in the Maryland *Medical Journal*. The essay is of special value as the outcome of the careful and thoughtful observations of a man eminent as a scientist, and of high standing in his profession, written solely as a practical contribution to the literature of our profession and the relief of the suffering.

The author's method of treatment is for the patient to drink a large glass of the artificial Kissingen water, kept at drug stores and soda fountains, twenty or thirty minutes after each meal one day, and a similar glass of artificial Vichy water after each meal the following day, and persistently continue to take them in this way week after week until he comes down to medium weight and stoutness. The author prefers the artificial to the natural waters because they may be always had fresh and are of more uniform strength, and therefore more certain in their action on fat. While using these waters the patient should keep tally on his girth and weight every two or three weeks. If he has lost more than a couple of pounds for each week let him take a smaller glass of water, and if he has lost less squeeze a few teaspoons of lemon juice into each glass of the Kissingen to increase its acidity; add also one teaspoon of the aromatic spirits of ammonia to each glass of Vichy to increase its alkalinity.

He should use sparingly starches, sugars, fats, alcoholics and all fat-forming foods, and use neither food nor alcohol except at the regular meals. He should take any exercise which will increase and deepen his respiration, and thus promote tissue of oxidation. The author does not pretend to define the physiological action of these waters, but advances as a logical hypothesis that the Kissingen being an acidulous *saline*, and the Vichy an *alkaline*, and both containing salts of calcium, magnesium, potassium, sodium and other minerals in decided quantities, united with carbonic acid and other gases when *alternately* mingled with the food pulp or chyme in the stomach and intestines day after day, this special combination of ingredients bring about reduction by some chemico-physiological readjustment of the alkalinity and acidity of the blood and the visceral glands, or possibly of both human and solids; and that this readjustment makes the fat yielding pabulum less plentiful and therefore less favorable for fat creation and explains why increase of fatness ceases and why reabsorption of the surplus fat cells begins, resulting in physiological reduction and reconstruction. The author gives a record of eleven cases in which this treatment resulted in the reduction of weight of from seven to forty-three pounds, in from five to nineteen weeks. When the excess is chiefly in the abdomen the author recommends the wearing of a moderately tight abdominal binder.

DR. MITCHELL, in the *Medical Record*, discussing tuberculosis, says in his large experience he has found a solution of the halogen group of salts with the hypochlorite of sodium the best remedy to modify and perhaps cure pulmonary tuberculosis. This remedy acidifies the blood when saturated with it and almost immediately relieves the extreme anemia, loss of appetite and strength, and night sweats which form such

distressing symptoms. The cough, which is almost always present and sometimes distressing and even terrible, is relieved by giving a mixture of the iodide of potassium with a little sulphate of morphine and a syrup as a vehicle. For the hectic fever Dr. Mitchell gives a capsule containing four grains of quinine and one-fiftieth of a grain of strychnine once or twice a day. Brandy and whiskey may be given, but never wines or malt liquors.

SUICIDE.—It is strange that prussic acid, which twenty years ago was the most popular poison to produce death, on account of its freedom from pain and rapidity of action, is now almost ignored by the suicide, the preference being for carbolic acid and paris green. Last year, of 384 suicides, 295 men and 85 women, not one used prussic acid, although almost every other known poison was utilized. The number of male foreigners who committed suicide last year was three times greater than the native born, the males being three times in excess of the females. Suicides are more frequent between the ages of 45 and 65 years. Last year between these periods there were 122 suicides, of which 105 were males.

THE mortality of the yellow fever along the towns on the Gulf and the Mississippi River has been very light, the disease being of a mild form. The frosts of autumn, which are now very near us, will undoubtedly bring the disease to a speedy termination.

DR. I. GILBERT repeats in the *Dental Record* a case of blindness from functional disturbance of crowding teeth. A boy woke up in the morning entirely blind. Four teeth which were found crowded together were removed and in a few days the sight was entirely restored.

DR. MAX EINHORN, probably one of the ablest specialists in diseases of the stomach, will give special courses in the autumn and spring, at the Post Graduate, on the newest methods of diagnosis and treatment of diseases of the stomach.

Hall Caine says that American women are more intellectual than American men, while on the other hand Englishmen are mentally stronger than their countrywomen. Of course, this is equivalent to saying that our women are more intellectual than their English sisters. But the question is by no means settled because of Mr. Caine's opinion. There is a different atmosphere in this great Republic, and American women have different environments from the women of England. Natures are largely developed by the training they receive and the circumstances in which they are brought up; and the free and independent life of our American women necessarily produces an alert and broad-minded womanhood that as yet is comparatively unknown to our more conservative English sisters.

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One-half of the volume is devoted to diseases of the cerebro-spinal and sympathetic nerves, by Dr. James Hendric Lloyd, of Philadelphia.

The anatomy of each nerve is given with the symptomatic indication of disease, both local and reflex, with the most approved treatment illustrated by clinical cases. The bibliographical resources, numbering 240, are proof that the author has culled his facts from a wide field of literature, and combined them with judgment and literary clearness of expression.

Dr. Charles Mills, of Philadelphia, gives a short but very excellent article of sixty-five pages.

Dr. L. Bruens, of Hanover, and Dr. F. Windsched, of Leipsic, discusses in an article of 150 pages diseases of the spinal cord.

Dr. I. Möbins, of Leipsic, gives a very excellent treatise upon Tabes-Dorsalis. The combined system of diseases of the spinal cord are passed in review by Adolph Strünpell, of Erlanger, and Pain is discussed from the point of view of the Science of Psychology, by Dr. Lightmer Widmer, of Philadelphia.

THE DISEASES OF WOMEN. A Hand-book for Student and Practitioner. By J. Bland Sutton, F. R. C. S., England; Surgeon to the Chelsea Hospital for Women, Assistant Surgeon Middlesex Hospital, London, and Arthur E. Giles, M. D., B. Sc., London, F. R. C. S., Edinburgh, Assistant Surgeon Chelsea Hospital for Women, London. With 115 illustrations. Philadelphia: 1897, W. B. Saunders; pp. 436; octavo. $2.50 net.

It has been the aim of the author of this little book to state facts and describe methods belonging to this specialty in a manner to be of service to students for examination purposes, and which will also enable them to do the practical part as well. The text is very clearly stated and the illustrations good. It is an excellent book for the medical student.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS, MALE AND FEMALE, by N. Senn, M.D., Ph.D., LL.D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College, Attending Surgeon to Presbyterian Hospital; Surgeon-in-Chief St. Joseph's Hospital, Chicago. Illustrated. Philadelphia; W. B. Saunders, 1897; pp. 317; octavo. $3 net.

This treatise is intended to fill a gap in medical literature upon a most important subject; of interest to the physician and surgeon as well as to the gynæcologist. The book has been prepared from the clinical standpoint and is eminently practical. The bacteriology of the subject receives due attention as well as differential diagnosis. The medical and surgical therapeutics, the author says, are "not in a satisfactory state," but he has given the "results of his own clinical observation," which are known to be large and carefully recorded. We shall look with interest for future editions of this work as the subject develops.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M. D., Ph. D., Professor of Gynæcology in the University of Pennsylvania, Surgeon to the Gynæcean Hospital, Philadelphia. Illustrated. Philadelphia: W. B. Saunders, 1897. pp. 529; octavo. Price $3.50 net.

This book has been written by Prof. Penrose for the medical student, and hence every effort has been exerted to make it especially adapted to this purpose. In most instances but one plan of treatment is given for each disease, thus avoiding confusion. It is the book *par excel-*

lence for the student, and Mr. Saunders presents it in the best of shape for a reasonable price.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS, ETC., edited and annotated by J. J. Pringle, M.B., F. R.C. P., etc. W. B. Saunders, Philadelphia.

Part XI. of this interesting series contains plates with text on the following affections: Hydroic erythema, pigmentary syphilide, molluscum contagiosum, vascular nævus verrucosus and pediculosis vestimentorum with pigmentation.

THE EYE AS AN AID IN GENERAL DIAGNOSIS. A home book for the use of students and general practitioners; by E. H. Linnell, M.D., Philadelphia; the Edwards & Docker Company, 1897; pp. 248, octavo.

There is no doubt but what the eye affords valuable aid in the diagnosis of many affections, that they have been overlooked and that such a work as this is in demand. The work has been done from the standpoint of the specialist for the student and general practitioner in a practical and concise manner, and will be found of interest and value for the purpose indicated.

PRINCIPLES OF MEDICINE. By Charles March, M. D., Chicago. The W. T. Keener Co.

The author states as the object of his monograph "to show first which is the case sought in any given practice of homœopathy, and that one may constantly accept homœopathy and at the same time accept whatever else is good in medicine."

SOCIETY REPORTS.

LARGE CYSTIC KIDNEY—UTERINE MYOMATA—MORPHINE HABIT.*

BY WILLIAM H. WATHEN, M. D., LL. D.,

Professor of Obstetrics, Abdominal Surgery and Gynæcology in the Kentucky School of Medicine.

About three weeks ago a maiden lady aged fifty-two years, past the change of life, from Corydon, Ind., consulted me for a tumor in her right side which had been diagnosticated by the attending physician as an ovarian tumor. It was easily outlined and found to be connected with the kidney, and about as large as a child's head. The urine contained no albumen, nor was there anything abnormal about it. The heart beats were irregular and the radial pulse very frequently absent at certain beats. She had grown quite thin, and was poorly nourished, doubtless because of this tumor.

On the following day an incision was made over the kidney in the right linea semilunaris, and the enlargement was found to be cystic and so movable that it was evidently not malignant. The left kidney was thoroughly examined by pushing the hand over through the opening in the right side, and the ureter traced down to the bladder to see that the left kidney and its ureter were not in any way diseased. Then the cyst was aspirated, the liquid removed, and the kidney and cyst enucleated, the vessels being ligated after having been brought into the wound. The woman passed within three days more urine than is customary after ordinary laparotomy or hysterectomy where both kidneys are in a healthy condition. I was particular to insist upon no opium being given under any circumstances. She has made an uninterrupted recovery; at no time has she had any elevation of temperature or acceleration of pulse.

Case 2.—Two days afterward a woman consulted me for what had been diagnosticated diseased ovary. Upon investigation I found that the uterus contained some small myomatous growths in its walls. The woman was large, aged twenty-six years, married, but the mother of no children, never having been pregnant. Pain in the pelvis because of these tumors was such as to necessitate large doses of morphine; I think she was taking three grains at a dose several times a day. The vagina was small, but I considered the preferable method for operation to be *per vaginam*. The vagina was separated from the uterus, and after clamping off the uterine arteries and separating that part of the broad ligaments from the uterus, I bisected the organ and then had no difficulty in pulling each side containing the tumors external to the vulva and applying another clamp. This woman had been taking, as I have said, three grains of morphine at a time, probably several times daily, and I thought it would be unwise to attempt to withdraw the morphine abruptly, although it is a very bad plan to allow patients upon whom you have operated to use morphine if it can possibly be avoided. Therefore this patient was given enough morphine to keep her quiet, and at no time did she have any trouble from it. I have never seen a patient do better after such an operation. The pulse was never accelerated over ten beats to the minute above the normal, and she has had not exceeding one degree elevation of temperature at any time, and went on making an uninterrupted recovery, and the Sister, when she left the infirmary, had reduced the morphine to one grain during the twenty-four hours. There will be no trouble in continuing to reduce the quantity until she takes no morphine at all, provided she is placed under proper control. However, I find in most of such cases where the morphine habit has been formed, where they have suffered as this woman has, very often the desire for morphine will remain for a considerable time; the family will give morphine whether the doctor prescribes it or not, and it is hardly possible to effect a perfect cure unless the patient is separated from the family for a considerable time.

DISCUSSION.

Dr. J. M. Mathews: I have been hearing the gynæcologists report a great number of cases to this and other societies for a number of years, with the statement that the patient was in the habit of taking morphine, where they were really morphine habitues, and that after the operation was done, no morphine was administered at all. I am sure I have heard that declaration a dozen times, and therefore when Dr. Wathen mentioned that this woman took three grains of morphine several times a day, I was wondering if he had cut her off from any morphine after the operation. It also occurred to me to ask if a laparotomy enabled the morphine habitue to quit the use of morphine, for surely we all know it is one of the most difficult things to do to cure a morphine habitue, and upon one occasion I asked a gynæcologist how it was after his surgical operation the morphine habit ceased. Dr. Wathen does not let us out entirely in this case, because he says before the patient left the infirmary the nurse had reduced the quantity of morphine to one grain in twenty-four hours. I would like for him to state whether he gave her any anti-morphine treatment at all, because I regard it as rather important in gynæcological work to have these points elucidated, for we are so often met with the statement that no morphine should be administered after these operations, and I would like to know if laparotomy is a sort of cure, as it were, of the morphine habit.

Dr. W. H. Wathen: In answer to Dr. Mathews' question. No anti-morphine treatment was used except strychnine, which I always advise in these cases. I gave in this case the sulphate of strychnia in doses of 1-20 grain hypodermatically repeatedly three to six times daily. There is nothing in a laparotomy or a hysterectomy that would tend to lessen the desire for morphine, with the exception of the removal of pain that the patient has been suffering because of the pathological condition for which the operation was done. So then after the operation she can get along with less morphine, for several days at least, while the patient is under the control of the nurse and not under the influence of her family; the pain having been removed you can reduce the morphine very rapidly where the habit has not

* Reported to the Louisville Clinical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

been acquired for a long time, say only a few months, and we can sometimes in a few days break up the habit entirely. I have had a number of such cases. I remember one woman who was taking three grains of morphine at a time before the operation, and within a week after the operation she took no morphine and has taken none since. The patient referred to in my report to-night had been taking morphine for a long time, evidently being encouraged in doing so by her husband, and while we have reduced the amount from ten or twelve grains daily to one grain a day, I am sure that her husband will encourage her to take the drug every time she complains of the least pain, and probably within a few months, though she will have no disease within the pelvis, she will be complaining of pains elsewhere and will be taking just as much morphine as ever. But if the patient can be kept under the entire control of the physician or a competent trained nurse, away from the influence of her family, she can usually within a few weeks be permanently cured of the morphine habit without any of the so-called anti-morphine treatment or anything else except proper restraint and the hypodermatic use of strychnia.

Dr. J. W. Irwin: Have you ever seen any nausea following the administration of strychnia as you have stated? And why do you use the sulphate instead of the nitrate of strychnia?

Dr. W. H. Wathen: I have never seen any nausea following the use of the sulphate of strychnia. I have no especial preference for the sulphate, but the druggist who furnishes it always gives me this form instead of the nitrate. I have been asked the amount I usually give in cases such as I have reported. I have always administered strychnine in 1 20 grain doses. Many years ago I used strychnine in gynæcological practice, but getting no good results I discontinued its use almost entirely. Finally I began using it again, and for some reason increased the dose, giving 1-20 grain, repeated if necessary several times a day hypodermatically, and since I adopted this plan my results from its use have been universally good. I have given in cases of shock 1-10 grain every two or three hours for a day, and occasionally for more than a day, and never yet have I had any serious results following its use after operations or in nervous people upon whom I have operated. In fact I have never seen any pathological manifestation following the use of strychnine.

Dr. J. W. Irwin: Have you ever noticed a gradual slowing of the pulse after the administration of strychnine?

Dr. W. H. Wathen: After laparotomy during the first two days, if there is much nervousness on the part of the patient, a tendency to excitement of the pulse, strychnine nearly always increases the rapidity of it; but under the use of it for several days the patient recovers from the effects of the operation and becomes less nervous, then the pulse comes down to the normal. But I have noticed often, as has also my assistant and remarked upon it, that where a patient is very nervous and there is a tendency to excitement of the pulse anyway, that strychnine almost invariably increases the number of beats to the minute. I repeat the dose of 1-20 grain three or more times a day as may be desired until the patient is better; then the same quantity is given three times or less a day for awhile, I then think it is better to discontinue altogether for a short time, then resume, because I think they become accustomed to the drug and we do not get the proper effects from its use. I have continued this method of giving strychnine for three to seven weeks in some cases.

Dr. Louis Frank: What indicates that the patient has had enough; how are you guided as to the amount to be given *per diem*?

Dr. W. H. Wathen: I am guided by the fact that the patient is doing well; after a few days she is less nervous, is stronger, and there is no abnormal condition resulting from it. I never push the drug far enough to get any of the pathological results; that is, to get the well-known muscular jerkings of strychnine. I feel that strychnine in 1-20 grain doses three to six times daily is certainly as much as a patient ought to take after a few days.

Dr. T. P. Satterwhite: In cases of shock, where the pulse is very feeble, probably almost imperceptible, if you give as large a dose as 1-10th grain of strychnine, you certainly do not expect the circulation to take it up rapidly, or practically at all I should think under such circumstances you would be apt to get the accumulative effects of the drug, producing serious consequences, the pathological condition which is well recognized as being dependent upon the effects of strychnine.

Dr. W. H. Wathen: In such cases the drug is introduced hypodermatically in such parts of the body where the circulation is sufficiently good to take it up. I have never administered strychnine in a case where I had reason to believe it was not promptly taken up by the circulation. If you will make the injection into the inner side of the leg, the abdomen, or high up in the arm, you will find that there will be no trouble about absorption of the medicine, even though some parts of the body may be nearly pulseless. In a short time after the injection you will find that the enlargement caused by the liquid has entirely disappeared.

Dr. J. W. Irwin: Have you seen any bad effects from injecting strychnine into a vein?

Dr. W. H. Wathen: I have never injected strychnine into a vein.

Dr. Louis Frank: I would like to endorse what Dr. Wathen has said in regard to strychnine; I have given this drug frequently, particularly in cases where there has been much shock, and in those cases where the patient has been on the operating table for a great length of time and where the pulse was very bad. I remember one case where I believe strychnine was a life saver. In this case I had the nurse give 1-6 of a grain hypodermatically at one dose; and though as a result the patient had rigidity of the neck, also the muscles of the face, the jaws being tightly locked, and there being the condition of opisthotonus, I believe strychnine acted as a life saver. It was a very extreme case of abdominal section, the cavity being very much soiled by pus, and although the patient had a stormy convalescence, she finally recovered, and I believe it was due to the prompt and heroic hypodermatic use of strychnine.

Dr. J. M. Krim: There is no difficulty about using strychnine in 1-30 grain doses. I recently had an extreme case of typhoid fever, where after subsidence of the fever the temperature went subnormal, and the only thing I found that would bring it up to the normal was strychnine and glononine (nitroglycerine). This had to be continued for two weeks. In one twenty-four hours I gave the patient 1-10 grain strychnine with 1-100 grain glononine repeated every three hours, and this quantity was given with greater or less frequency for a period of four days. After that time I gave him strychnine by the mouth for three weeks, 1-20 grain four times a day. It did not produce any bad effects, or any pathological reaction, such as rigidity of muscles, contraction, etc. I believe in such cases strychnine is one of the best remedies we have.

Dr. T. P. Satterwhite: Speaking of the morphine habit, I believe that the majority of the morphine habitues are probably due to the administration of the drug in the first instance by the doctors. It has always been my course, and it is my pleasure to state, in every chronic case to which I have given morphine, it has not subsequently resulted in the habit. It is the duty of every physician to warn the patient, if morphine is administered, of the likelihood of the morphine habit being formed if the drug is continued. I always impress it upon them, try to appeal to their moral natures, as to the dangers of morphine, even going so far as to tell them they had better be dead than to live and be addicted to the habitual use of morphine. I endeavor in every way to impress them with the enormity of that condition of things, and have been struck with this feature, that they fear formation of the habit, and often assist in avoiding it by requesting that morphine be not given them. I have a case now in which I have given six grains of morphine in the twenty-four hours for four consecutive weeks, yet the patient has been so impressed with the dangers of the drug that I believe there will not be the slightest trouble in discontinuing it abruptly when the conditions demanding its use have been removed. In all these cases I think if you will impress upon the patients the danger of the habit, appealing

to their moral natures as I have suggested, that it will have the greatest influence in getting the patients to co-operate with you in breaking up the habit if formed, or in preventing the habit if not already formed.

Dr. Wm. Cheatham: My experience differs from that of previous speakers in regard to the administration of large doses of strychnine. I always give the nitrate as it is more soluble. I have scarcely ever been able to give over 1-20th of a grain without getting the effect of strychnin:, nausea, twitching of the muscles, etc. When I use strychnine in atrophy of the optic nerve I usually take a solution of four grains to the ounce of water, commencing with two drops, increasing the dose gradually. In one case I gave as the maximun dose 39-120ths of a grain, nearly 1-3d grain, by gradually increasing the quantity. Even when I give 1-20th grain I always keep the patient in the office for about an hour, to see what the effect is going to be, and sometimes have to give chloral or some other drugs after having administered strychnine even in smaller doses than 1-20th grain. The lady who took nearly 1-3d grain left the hospital in New York and crossed on the ferry to Hunter's Point, where a great many railroads center, and every time one of the engines whistled she would drop to the ground in a convulsion. After a few minutes she would recover sufficiently to get up and walk, but when the engine whistled again she would fall. She was finally taken up and given attention by one of the local physicians. I have never felt safe in giving large doses of strychnine

Dr. Carl Weidner: In this connection I want to report an experience I had this evening before coming to the meeting, which illustrates that there is no rule by which we can be governed as to the dose of certain remedies. I have been in the habit of giving strychnia in 1-30 grain doses three times a day. A patient came to my office this afternoon to whom I had given 1-60 grain of strychnia three times a day for a few days, and from this dose he showed the distinct physiological effects of the remedy, such as twitching and rigidity of the muscles, nausea, etc. It was given by the mouth.

Dr. S. G. Dabney: I am rather surprised to hear Dr. Cheatham say that he is unable to give strychnine in larger doses than 1-20 of a grain. In cases of atrophy of the optic nerve I frequently give much larger doses. I have a supply of 1-20 grain tablets in my office, and have frequently given nearly two tablets without the slightest bad effects. In cases of intubation of diphtheria, especially during the last stages of the disease, where the little patients are collapsed, we are warranted in administering much larger doses. Dr. Cheatham probably did not intend to include such cases in his remarks. I have frequently given very much larger doses proportionately in children than in adults. I remember in one case of a little girl four or five years of age I gave 4-48 of a grain of strychnine between 9 o'clock in the evening and 4 o'clock in the morning, and the child recovered and showed no bad effect from the drug. She was almost moribund when I saw her at 9 o'clock in the evening, and I believe her recovery was due to the strychnine administered. In cases of atrophy of the optic nerve I have frequently given over 1-20 grain, beginning with this quantity and increasing the dose gradually, and have never seen any bad symptoms result. Occasionally there has been slight twitching of the muscles, but nothing more.

Dr. W. H. Wathen: The discussion has taken a much wider range than my previous remarks called for, and in closing I will simply say that I always use the sulphate of strychnine, although it is probable that the nitrate, being more soluble, is more active in its effects.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

The Nerves of the Heart and the Thyroid Gland.—M. E. de Lyon has just discovered the physiological destination of the third branch of the depressor nerve which forms an anastomosis with the superior cervical ganglion, also with another branch of the same nerve coming from the superior laryngeal. 1. Excitation of this third branch causes a diminution of arterial pressure, very often accompanied with an acceleration of cardiac pulsation especially if the two pneumogastrics have been previously divided. At the same time a slight but persistent contraction of the two pupils is produced. 2. The branch which proceeds from the superior laryngeal—the largest in the rabbit—serves to put the heart in direct communication with the thyroid gland, and causes the heart to intervene in the function of this gland. The cardiac filaments of the inferior laryngeal nerve have probably the same destination physiologically. 3. The iodothyrine of Baumann, when introduced into the circulation of the blood, exercises a pronounced action upon the nerves of the heart and the vessels, and particularly upon the function of the depressors.

In certain phases of this action the excitation of the depressor nerve sometimes provokes so strong a force of blood pressure that the animal succumbs because of the inability of the heart to recover from the pressure. These new researches demonstrate the existence in the depressor nerve, besides the well-known centripital nerve fibres—of others capable of reflex action upon the accelerator nerves, and the oculo-motor apparatus, and directly upon the thyroid gland.

This diversity of functions of the depressor nerve, and also the reciprocal influence that the heart and the thyroid gland can exercise upon each other by the intermediation of this nerve, permits an explanation of the principal symptoms of Basedow's disease, of goitre, exophthalmia, the cardiac symptoms and the persistent diarrhœa, from paralysis of the splanchine nerves, by the different actions exercised by the depressor upon the great sympathetic.

BIOLOGICAL SOCIETY.

M. H. Claude has investigated the different processes of infection of the biliary apparatus, which can be done by the ascending way, or the descending by the general circulation. This last mode, though less understood, is no less real, and he proved lesions of toxic arteritis in two cases of cholecystitis.

M. Raillet exhibited parasites of the liver found in the beef of Saigon and belonging to the genus amphystome. They caused special sclerous lesions around them, and discolored the tissues with which they were in contact. M. Campos read a communication upon the lachrymal secretion after section of the great superficial petrosal nerve. His conclusions were that the lachrymal nerve contains numerous secretory fibres independently of the facial nerve.

M. Remlinger, chief of bacteriology at the military hospital of Tunis, has attenuated the virulence of the bacillus of Eberth in cultures by continuous bathing of the culture tubes—ordinary microbes were not affected by this method. M. Henriot remarked that the bathing of the tubes at the temperature of the baths given to the individual had nothing in common with the real temperature of the bacillus contained in the human body during the bathing.

M. Déjérine presented a paper of M. Mirallié, of Nantes, upon a case of moist hand, of the type attributed by different authors to syringomyelia, and met with in a case of atrophicmyopathia, of the type Laudouzy-Déjérine.

MM. Sabrazes and Rullières have studied the septic vibrion, the symptomatic bacillus of charbon, and especially the bacillus of tetanus, in view of the agglutinating power of the serum of the blood in these infections. They found this power in the blood of a tetanic gardener particularly. M. Lejars investigated the subcutaneous ruptures of arteries and the gangrene resulting from them. He recalled two cases of clinical experience, and concluded that in wounds that obliterated the vessels, the rupture of the internal coats extended longitudinally to a great distance, which fact, independently of the concomitant nervous lesions, explains the production of gangrene more than the simple ligature.

M. Ch. Richet injected into the peritoneum of a dog considerable quantities of sterilized water—saline—at 50 to 55°, without observing anything more than a slight increase of the temperature of the animal. This fact should encourage surgeons who hesitate to employ warm water

injections. He proved that intra-rectal injections were much less readily sustained than the intra-peritoneal.

MM. Perochaud and Mirallié addressed a note upon the conditions of tendinous reflexes in chronic rheumatism. They proved that the radial reflex was increased, and that this increase of reflexes coincided with a series of trophic troubles of variable nature.

MM. Albarran and Bernard described papillary tumors of the bladder, simulating cancer, and due to the presence of bilharzia, they may become endemic, particularly the ano-rectal when coming from the caire or bilharzia.

M. Eisenberg reported two cases of infantile spasmodic rigidity, in which there were lesions of the nervous centers.

M. Roger investigated the limits of immunization of vaccine for variola, and reported three observations of variola developed three years after vaccination in children. Two similar cases of adults occurred in his service at Auberville.

M. Baraduc presented specimens of human radiography, photographic views of the effluvia disengaged by man when placed in the dark.

M. Troisier read a communication from M. P. Godu upon the hereditary transmission of two congenital cutaneous fistulæ of the upper sacral region that occurred in the grandfather, the son and small children.

M. Boix reported that in the guinea pig the toxicity of the urine undergoes a diminution during the whole period of gestation, just as in the pregnant woman.

Changes in the Form of the Heart as Revealed by Phonendoscopy.—M. Capitan and Mlle. Pokrychkine gave an abstract of their researches made among a large number of patients at La Pitiè upon the subject of the changes in form and volume of the heart of nervous subjects. For these researches they adopted the method of Bianchi, called phonendoscopy, which they practiced with the aid of the stethoscope of Boudet, of Paris, modified by MM. Capitan and Verdin. After marking the projection of the heart upon the thoracic wall in a state of repose, in a few moments they decided, First, That the heart of normal subjects, especially when there is no nervous trouble, undergoes no change in its form, volume nor position; Second, On the contrary, when the subject presents some alteration in the condition of the nervous system, either hysteria, neurasthenia or troubles of a reflex character, from some point of the organism, the heart becomes over-excited and changed in form from slight exertion. These modifications assume the three following types: (*a*) The heart augmented in all its dimensions or only in one; (*b*) The heart contracted and diminished in volume; (*c*) Or there may be a movement of translation. The form may be modified a little also, the diameters remaining the same, or the form may not change, but the heart is projected bodily toward the median line, or, more frequently toward the axillary line.

The Superiority of Women as Respects Abdominal Operations.—For the last few years efforts have been made to establish statistics as detailed as possible relative to the therapeutic results of the gravest operations. The influences of age, of sex and of country have been studied, to see even the surgical temperament and the experience of the operator. Grave operations are much better supported by women than by the stronger sex. For a long time it has been observed that laparotomies and abdominal operations in general are, in appearance at least, less cruel to women than to men. But to be more precise. Statistics carefully complied, of pylorectomy and gastro-enterostomy, have shown that women sustain these serious surgical interventions more remarkably than men. The figures are indeed indisputable. For gastro-enterostomy, for example, of 117 operations performed upon men, the mortality was 54 per cent. Of 96 cases of women the figures reached only 35 per cent, a difference of nearly 20 per cent. For pylorectomy the difference was less considerable, as it attained to 12 per cent. Of 70 operations performed upon men the mortality was 64.3 per cent., and for women 52.8 per cent. only. These figures, furnished by Haberkaut, seem to be very convincing. From this point of view these women present a special resistance. Why is this? Is it one of the peculiar characteristics of the female sex? But that does not answer the question.

Well might M. Terrier compare this reasoning with that of one of Molière's personages, who thought that opium produced sleep because it had a somniferous nature. But there is another cause which contains perhaps the whole truth. Pregnancy usually alters the abdominal walls, which become more supple, more flaccid, less thick and more easily depressible. From this it results that when a woman presents an intra-abdominal lesion, surgical or gynæcological, the physical examination, especially the deep exploration, being thereby greatly facilitated, the diagnosis is more easily made and consequently more thoroughly. For another reason, as women complain quickly and are easily persuaded, the surgeon soon decides upon an interference, even though grave, which may preserve both their beauty and their lives. It results that an operation is performed early in the disease, when the conditions are more favorable and consequently the cure more frequent. It may be added that women usually do not work and more willingly enter the hospital than men, these latter continuing their occupation until they are overcome by the disease from which they suffer, which explains the greater mortality when they finally undergo a serious operation

M. Lannelongue reported fifty-one cases of inguinal hernia successfully treated by interstitial injections of the chloride of zinc, ten of which were made around the sac. The ages of the subjects varied from four months to sixty years.

M. Pinard read a report of two cases of Cæsarian operation practiced upon women at term who had enormous fibrous tumors by MM. Poucet and Lecerf. Total abdominal hysterectomy performed in an analogous case by M. Mouchet seemed to him to be the operation of choice. M. Gueniot remarked that the Cæsarian operation performed upon fibromatous wounds gives a large proportion of deaths. In the case of M. Lecerf the fibrous body was pediculated, which explains the success obtained.

Coagulation of the Fibrim of the Blood by the Bacillus of the Bubonic Plague of Bombay.—M. G. Nepven, of Marseilles: The new and capital point of my histological researches of the plague by means of the specimens sent to me from Bombay is the coagulation of the fibrim of the blood produced by the bacillus. I desire to call special attention to this fact apart from the whole group of lesions produced by it, *viz.*, leucogenesis, dropedosis, pyogenesis, different degenerations of all the elements of the tissues. The coagulation of the fibrin is an important phenomenon in the history of the lesions determined by the plague. This coagulation adds its mechanical effects to their products by the hypergenesis of leucocytes in the general capillaries and by the increase of volume of vascular endothelium, thus producing congestion, œdema and hemmorrhage, etc. In all the viscera I have never observed this coagulation in the lymphatic vessels.

M. Boissard indicates the medicines which should not be prescribed for nurses. Among the first he cites drastics, emmenagogues, digitalis, pilocarpine, saline purgatives, alcohol, spirituous drinks and arsenical preparations. Caution should be observed in the employment of opium, sulfate of quinine, podophyllum and rhubarb, antipyrine should only be given in case of absolute necessity, and an absolute milk regimen should be equally rejected, except in temporary albuminuria. In a general way, only small doses and at long intervals are justifiable for nurses. The woman who is nursing should be of a healthful and vigorous type, and there is but one exception to the rule, *viz.*: that of syphilitic nurses. *Purulent Arthritis During Endemic Cerebro-Spinal Meningitis.*—A boy of two years entered the hospital with symptoms of cerebro-spinal meningitis and a right tibio-torsal arthritis that occurred three days after the beginning of the meningitis. The lumbar puncture, made the same day, gave issue to a cloudy fluid which contained a large number of leucocytes and diplococci, and intra-cellular meningococci after bacteriological examination, which proved to be very virulent to mice. Next day after puncture of the articulation the pus contained numerous meningococci, the culture was sterile, and the blood yielded nothing; death fifteen days after entrance into the hospital. Two days before there appeared successively arthrites of the elbow, of the thumb

of the left side, shoulder and right wrist; microscopic examination gave streptococci. Autopsy, classic lesions of cerebro-spinal meningitis, pneumonia of two bases of lungs. The tibio-torsal articulation with meningococci nearly cured, other articulations full of pus; the intracellular meningococci can then penetrate articulations and there form exudations. The other arthrites with streptococci were the result of a secondary infection, and showed no tendency to cure.

Hypnotic Suggestion in Troubles of Deglutition. — M. Farengoltz reported a curious case of a young girl of twenty-one years, in whom menstruation began at seventeen years. The six first were normal, at the seventh she felt a sensation of compression in the chest, and it was impossible for her to swallow. This lasted to the end of the period, and was repeated at each menstruation, thus exhausting the patient to such a degree that she had to be sustained by nutrient enemata. Everything was done to overcome the troubles, and finally recourse was had to suggestion. On the first day of menstruation when deglutition became impossible, the patient was put to sleep, and it was suggested that she should take a glass of milk, which she did on awakening, and from that time deglutition was easy. There was no recurrence of the difficulty during subsequent menstruations.

ACADEMY OF MEDICINE.

Repair of Loss of Substance of the Liver.—M. Cornel demonstrated by numerous micrographic figures that repairs of wounds of human tissues are always made by the same cellulo-vascular mechanism, that it applies to serous, mucous or organic parenchymata like that of the liver.

Treatment of Myopia by Extraction of Transparent Lens.—M. Chauvel read a report of a communication of M. Vacher relating thirty-six observations of extraction of the lens for the treatment of myopia, with satisfactory results in all cases.

Bilateral Resection of the Cervical Sympathetic for Exophthalmic Goitre.--M. Gerard Marchand. The patient was affected with exophthalmic goitre with marked trembling of the upper and lower extremities and tachycardia. Notwithstanding thirty three cases of speedy death supervening in 190 thyroidectomies, according to English statistics, but encouraged by the positive results of Jounesco and Jabouley, and persuaded of the value of the arguments furnished by Abadie in favor of section of the sympathetic, I decided to operate, and in order to be sure of dividing the sympathetic nerve, I made free section of its superior ganglion, which was easily discovered high up in the neck. The immediate result of the operation was most satisfactory. At the end of four days there was no more goitre nor exophthalmia. But, unhappily, this apparent cure was not maintained, as the patient is to-day, after some months, nearly in the same condition as before the operation. I believe, then, that the question of resection of the sympathetic should remain an open one. Neither my case nor that of M. Reclue determines the value of this method ; slight amelioration is obtained by it but it still remains to find the definite cure.

INTERNATIONAL CONGRESS OF MEDICINE OF MOSCOW.

Nature of the Modifications of the Spinal Marrow in Tabes.—M. L. Darkschewitsch, of Kason—The modification of the posterior cords of the medulla in tabes-dorsalis is not a primary affection, but a secondary phenomenon. Two morbid processes especially appear to be the cause of this secondary modification.

1. Inflammatory modifications of the peripheral nervous system. 2. A chronic and progressive inflammation of the soft envelopes of the medulla. These two initial causes may be combined with a preponderance of one or the other. The inflammation of the peripheric nervous system may provoke a retrograde degeneracy which extends to the bands of the posterior branches. In the medulla these modifications are localized in the expanded zones of the bands of the posterior branches. The modifications of the cells of the inter-vertebral ganglia, in this ascending degeneracy of the sensory bands seem to be a simple atrophy which corresponds with the modifications of the cells of the anterior cornua, and meets the retrograde degeneracy of the moter bands. The atrophy of the cells of the anterior cornua results from the morbid condition of the peripheral moter bands. The leptomeningitis which causes tabetic modifications of the medulla is localized almost exclusively in the zone of expansion of the post-spinal artery.

Pathogenesis of Tabes-Dorsalis.—M. H. Obersteiner, of Vienna : In order to discover the pathogenesis of this disease it is necessary to base it upon its etiology, on the one hand, and on the pathological anatomy on the other, and then unite the results found from the two, As respects the etiology, the majority of authors agree in recognizing that most of the tabetics have previously been syphilitic; notwithstanding the differences of opinion as to the percentage, the difference is much greater as to the mode of action of syphilis. Other causes, such as cold, traumatism, toxines, etc., may provoke tabes. From an anatomical point of view there are found in tabes extensive modifications of the whole nervous system, and there are certain regions which are almost never affected, while others are constantly subject to attack. There are also different lesions which are constant in tabes, and a degeneracy in the domain of the posterior cords is always found, more especially of the parts which are the intra-medullary continuation of the posterior cords. As the posterior ramifications are not always attacked, neither in the same way nor at the same time, it cannot strictly be said that tabes is a systemic affection. What is the point of departure of this ascending degeneracy of the intra-medullary branches? Four localizations have been in turn designated: 1. The peripheral nerves with peripheral terminations.—Leyden. 2. The cells of the spinal ganglia—Stroebe, Oppenheim Marie, Babes. 3. The posterior branches themselves (*a*) at the point where they penetrate the duramater, and arachnoid—Nageotte. (*b*) At the point where they pass through the piamater and the peripheral layer.—Lange. 4. The intra-medullary portion of the posterior branches, alone, or with an extra medullary portion. If no one of these theories can explain of itself, tabetic affection of the posterior branches, their totality perhaps may afford a sufficient explanation.

Treatment of Tabes-Dorsalis.—M. Grasset, of Mountpellier: As there is no specific treatment for tabes, the therapeutic indications can only be deduced from a knowledge of the nosological nature of this disease. Tabes is an anatomo-clinical syndroma, well defined, on the one side by its symptoms and its evolution—clinical history—on the other, by its lesions—anatomical history. The anatomo-clinical syndoma makes part of a more general disease, a disseminated multiple sclerosis. In tabes taken by itself, there are often sclerous lesions, sparse, disconnected, disseminated With tabes, there often coexist, in the same subject, other anatomo-clinical nervous syndromata, which correspond with other disseminated deposits of sclerosis of the nervous system. Like etiology of disseminated multiple sclerosis, the etiology of tabes is essentially complex. Syphilis is the most frequent cause, but it is not the only etiological element, even in cases in which it exists. Arthritis, different forms of injection, the neuropathic disposition, hereditary or acquired, medullary preponderance, and other causes also play their part. There are multiple etiological elements which combine to produce either the disease itself or its localization upon the sensitive medulla. Tabes is curable; facts clearly prove that it may be clinically cured, even when the lesion persists. On the other hand, tabes may, in default of cure, present remissions and partial retrocessions, long and durable enough to be desired by the patient. Finally, in less favorable cases, periods of arrest may be obtained; locomotor ataxia is not then inflexibly progressive. In spite of the pathological anatomy and its discouraging conclusions as to the definite sclerosis of the medulla, there is good reason to study tabes. 1. To cure, ameliorate or modify the anatomical condition of the medulla. 2. To re-establish the impaired functions of the diseased medulla 3. To relieve the painful symptoms. The means proposed to meet these indications may be classed into three groups. 1. Those that are addressed to the etio

logical elements, modifying agents of the causes of tabes. 2. Those addressed to the anatomical elements, modifying agents of the lesions of tabes, and 3. the means applied to the symptomatic elements. Before the etiological medication of tabes, it is necessary to discuss the anti-syphilitic treatment, the anti-arthritic treatment and various other etiological treatments. Anti syphilitic treatment is not harmful in tabes; it often does good; remissions, partial retrocession, exceptionally it cures. It may be employed every time that previous syphilis is certain, probable or only possible in the tabetic patient. Hence the rule that specific treatment should always be employed when the diagnosis is made for the first time. The first treatment should continue for three months; subsequent trials of treatment should be regulated by the tolerance and effects of it. The employment of chlorinated and sulphur waters apply to this indication. The antiarthritic treatment will comprehend the alkalies and iodides—weak doses—arsenic, special and hygiene and certain mineral waters. The indications taken from other etiological elements come from these elements themselves, and contribute to the etiological treatment of the neuropathic condition in general.

The therapeutic agents addressed to the lesions of tabes are indicated by the sclerous nature of the lesions or their medullary localization. Against sclerosis, the preparations of iodine should especially be employed. The iodorets, tincture of iodine, the salts of silver, if there is intolerance of the iodides ergot, in the acute or subacute attacks, and an anti-sclerous regimen, which is very important. More particularly to the medulla apply local revulsion in the acute or subacute stages, certain electro-therapeutic methods, elongation of the nerves, and different methods of elongation of the medulla. Among the last suspension useful in the chronic phases, and continued for a long time. It appears to apply itself to the perfected sclerosis resulting from anterior attacks or the cicatrix rather than to the disease in its active and progressive process.

The symptomatic treatment may be embraced under five principal heads. 1. The atrocious pains and visceral neuralgiæ justify the use of all sedatives, opium antipyrine, etc., but avoid injections of morphine as much as possible. Against the gastric attacks employ the oxalate of cerium. The study of the chemistry of the stomach in each case will furnish useful indications. To the same group belongs a series of external remedies, revulsives, chloroform, warm water, electricity and sedative mineral waters. To the amyosthenia and asthenia apply the sequardian medication and nervous transfusion, which may be replaced by injections of artificial serum, and the glycero-phosphates. To the same group belong the internal tonics—general and special—also massage and hydrotherapy, electricity and certain mineral waters. Against the ataxia, the re-education of the muscles according to Frenkel's method, a useful and recent method, which consists of the re-education of the medulla by the brain, or the development, by cerebral action, of a medullary compensation compatible with the persistence of the lesion. This measure should be employed in the interval of the acute or subacute attacks, when vision, the intellectual forces and the muscular force are sufficiently preserved. Of hysteria simulating tabes and the hystero-tabetic association, it may be said that the neurotic phenomena occupy in the symptomatology of tabes a much more important place than is generally believed or declared. The first and principal agent to combat these symptoms is suggestion; to the same group belong the electric and hydrotherapic applications and certain mineral waters. Finally, the vesico-rectal and ocular troubles with the trophic and circulatory disturbances and the bulbar crises present special indications in certain cases.

Dictophryme Visceralis as a Human Parasite in the United States.—Otto Sommer, *New York Medical Journal*, July 17, 1897, remarks on the scarcity of this nematode as a parasite of man in this country. In a careful search through the literature of the Surgeon-General's library at Washington he was able to find but two alleged cases, which he considered at best doubtful, owing to the fact that the reports were not complete from a scientific standpoint, and that the specimens themselves were not obtainable for determination. The existence, however, of dictophryme visceralis in some of the lower animals of this country, based on his own observations and those of others, the writer intimates, is sufficient reason for its consideration in diagnosis.

Jacksonian Epilepsy Treated Successfully by Craniectomy.—M. Auguste Dorsin, of Paris, observed a case of the above disease in a young man of seventeen years. He suffered from the fourth year of his age with convulsive attacks of the left side, which begin with a painful aura of the left upper extremity. Treatment of every kind has failed, and the frequency of the attacks compels him to keep his bed, and their violence is such that he has become semi-idiotic. A surgical operation seemed to be the only resource, and M. Pean made an extensive craniectomy of the right temperoparietal region. A portion of bone over the ascending fronto-parietal convolutions was removed, the duramater presented a marked thickening, the piamater very vascular, and the cerebral substance was found to be remarkably hard; like sclerosis. Results of the operation simple, pain of the extremity entirely ceased, patient had only three attacks; recovered his intelligence almost entirely, returned to his work, cure has continued for over two years.

Pathogenesis and Pathological Anatomy of Syringomyelia.—M. H. Schlesinger, of Vienna: It is not proved by anatomy that leprosy plays a role in the etiology of syringomyelia. The great resemblance of the clinical features of the two affections does not authorize the admission of the same anatomical conditions; again, it is not probable that leprosy can produce the excavations in the medulla. The term "disease of Morvan" is replaced by that of "the symptomatic complexity of Morvan," which is met with in the central affections, syringomyelia, and in the affections of the peripheral nervous system of leprous nature. Life in countries exempt from leprosy and the absence of the specific bacillus is not sufficient reason to exclude the disease. The symptoms met with in each malady, to the exclusion of others, have a very great clinical importance. Syringomyelia seems admissible when unilateral vulvar phenomena are seen, with spasmodic paresis of the lower extremities, rigidity and cramps of the same, increase of patellar reflex, nystagmus, violent vertigo, sensory and motor troubles disposed in segments. On the other hand, a leprous affection is present when there is peripheral facial paralysis of the sensory nerves, ocular troubles, also typical laryngeal and pigmentary and bulbar eruptions all over the body.

The anatomical bulbar lesion of syringomyelia, with the typical transverse phenomena, is only seen at the extremity of the protuberantia. The etiology of bulbar syringomyelia is not unique; vascular modifications, which are sometimes developed in early life, seem to play an important part. As very important etiological motors, there should be considered a progressive ischemia produced by arterial lesions and also the disruption of tissue by hemorrhage. The lateral cavities, unlike the median of the medulla, always lack the covering of ependyma which is always seen in the median cavities. This does not extend to the intra-bulbar tract of the first four pairs of cerebral nerves, and a small portion of the trifacial. In pachymeningitis of the medulla, a cavital formation is met with, which to all appearances takes its origin from a vascular modification.

Intractable Vomiting of Pregnant Women and its Rapid Cures.—M. Jules Geoffroy, of Paris, applies the method of *prolonged palpation* of the digestive tube in examining pregnant women who are subject to obstinate vomiting, and he has determined that the vomiting is due to a reflex contraction of the digestive tube, pylorus and duodenum, but more particularly of the ilio-pelvic angle of the colon. The contraction of the pylorus and the duodenum being secondary, and resulting from that of the ilio-pelvic angle of the colon, it is upon this last point that it is necessary to act. Prolonged palpation, by which the condition of hyperæsthesia and contraction is recognized, also constitutes the treatment; its action is certain and rapid. In one, two or three very short applications it calms the hyperæsthesia and stops the contraction. The disappearance of these phenomena takes with it the vomiting, o

which they are the cause, and the cure is as rapidly established. The author reports many conclusive observations in support of his discovery.

MEDICAL SOCIETY OF THE HOSPITALS.

Pleurisy with the Tetragene Microbes.—M. Faisaus, in his own name and that of M. LeDamany, reported several cases of pleurisy in which the tetragene microbe seemed to have played a certain pathogenic role. These sero-fibrinous pleurisies were from tuberculous pleurisies. In one case the tetragene did not exist in the sero-fibrinous liquid, but was present in the blood of the patient. In another case the patient had angina besides, with erythematous eruptions of infectious pseudo-rheumatism; in a word, a veritable infection, due doubtless to the tetragene. M. Chauffard, in view of the variety of observations of this kind, asked if there was no error of the laboratory. M. Archard added cases of tetragenic diseases, among them an observation in which the tetragene was found in the sero-fibrinous effusion of a tuberculous pleurisy. J. A. C.

CORRESPONDENCE.

GOAT BLOOD SERUM.

Bacterio Therapeutic Laboratory of the Winyah Sanitarium,
ASHEVILLE, N. C., Sept. 17, 1897.

To the Editors of THE MEDICAL TIMES:

The inquiry of Dr. W. T. Parker in your September issue as to goat serum as an antitoxic in tuberculosis, I take the liberty of answering in so far as the subject has received attention in our laboratory.

Upon the general principles of immunization, and taking advantage of the labors of Behring, Roux and Maragliano, who have attempted to make antitoxic serum for tuberculosis from the blood of various animals, the method of Maragliano was adopted with six goats, and the animals have been treated daily with increasing doses of a tuberculin (especially prepared without the use of high temperatures) from Aug. 4, 1896, to the present time.

Last April a small quantity of serum was obtained from one of the animals and tested for its antitoxic properties, and it was found that half a cubic centimeter of this serum was capable of protecting guinea pigs against fatal doses of tubercle-toxines. Maragliano's horse serum, prepared the same as our goat serum, showed a like result.

To increase, if possible, the antitoxic effect of the goat serum the treatment was continued to the present time, and to induce at the same time an antibacterial immunity, a watery extract or solution of tubercle bacilli was added to the treatment. More recently Koch's tuberculin was substituted for the watery extract in some of the animals, while in others the tuberculin after Maragliano and the watery extract of our own alone are continued.

On September 14th one of the latter animals was bled to death and the serum from this animal is now available for experimental and therapeutic purposes. In the others the treatment will be continued further until the present supply of serum will be exhausted.

Our laboratary will supply a limited quantity of the goat serum for the treatment of tuberculosis in its early stages, at a nominal cost, to such members of the profession who wish to test its clinical value.

The advantages hoped for are the following:

1. Increased antitoxic properties over other serum preparations by reason of the greater duration of treatment, being over a year instead of three or four months.

2. Antibacterial and possibly immunizing properties, by reason of large quantities of the extractives and solution of the tubercle bacillus itself which have been injected in increasing quantities since April 1st of this year.

The safety of the serum is assured by tests upon animals and by the perfect health of the goat from which the serum is taken, as ascertained by examination after death.

Very respectfully yours,
DR. KARL VON RUCK.

TUBERCULIN.

To the Editors of THE MEDICAL TIMES:

Tuberculin is meeting with adverse criticism. Conflicting testimony continues to appear in the reports from all quarters.

Even as a diagnostic agent opinions differ, and, according to Dr. Henry, of Melbourne, Australia, whereas it may be admitted that it is of value for this purpose as far as animals go, and some quite extensive experiments have been successfully completed in this line, both in relation to food supply cattle and other animals, still it does not follow that this should serve as a justifiable analogy to apply it in similar cases to man, for the reason that, in addition to the unmistakable dangers of its introduction into the system, the means of diagnosing pulmonary tuberculosis in man is already of such reliability as not to warrant such a risky procedure.

Dr. E. Thorner, of Berlin, Germany, has been one of the most persistent and enthusiastic experimenters on the therapeutic action of this agent. He appears to have guarded his steps as he proceeded in the way of excluding all probable discrepancies, and yet his results are called in question.

When he read his paper before a local medical society the discussion was rather adverse to his views. Prof. Leyden stated that in his opinion only here and there could its very cautious use be permitted, and he was compelled to acknowledge that he could not share Dr. Thorner's opinions.

Prof. Ewald also took part in the discussion, and stated that as far as clinical and experimental researches had gone, tuberculin possessed no specific action, and he felt inclined to believe that it would finally be abandoned owing to the dangers attending its use.

Prof. E. Koch has very recently reiterated his modified claim for this agent as being only of service in those cases where the tubercle bacillus was present, and that when the case was complicated by the presence of other microbes, it was not only of no service but often did harm.

Tuberculocidin (Alexcin)—modified tuberculin—has apparently received no attention whatever during the past year. W. T. P

To the Editors of THE MEDICAL TIMES:

Dr. Morton's (of the Health Department) statement, that some of the New York malaria is due to the escape of gases beneath the asphalt pavements into the cellars of houses is, not to put too fine a point upon it, curious. Any one who has lived in a malarial climate, like the Mississippi or the Missouri Valley, knows that there must be a fall of at least 20 to 30° of temperature between day and night to produce malaria. In these sections they have their outbreaks of malaria at the end of August and during September, because the nights then are cool and the sun still hot.

The report of the commission on malaria, during our civil war, in the lower Mississippi Valley, was that without such an amount of a change of temperature, between day and night, no epidemic of malaria ever arose.

To come back to New York. During this summer we have had exceptionally cool nights, following the hot June and July suns. In fact blankets, for a wonder, have not been uncomfortable through the whole summer; the consequence is, we have reaped a little epidemic of mild maleria. In 1888 the same condition existed, with the same phenomena of summer malaria following it. In that year I had a big fire in my grate on the 4th of July.

That the asphalting of our streets or the digging up of them has anything to do with malaria is perfectly absurd.

If we listened to all this funny science of the New York Board of Health, on a par with its orders to physicians to report all tuberculous cases, and with the turning loose of the lepers of North Brother Island, all the fine improvements represented by the asphalting of our streets would be put a stop to.

ALBERT S. ASHMEAD, M. D.
NEW YORK, Sept. 4, 1897.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Digitalin in the Treatment of Pneumonia and Influenza.—Gingeot and Deguy have published their trials with digitalis in pneumonia and la grippe in the *Revue de Médecine*. for March, 1897 (*Boston Med. and Surg. Jour.*) They do not give the digitalis in the form of infusion, but they use the crystallized digitalin, in a 1 per cent. solution. Fifty drops of this solution contain one milligramme of the alkaloid. To obtain certain and rapid effects, they administer, early in the disease, one massive dose of a milligramme, and give no more medicine of any kind for five or six days. In proceeding thus, they have never observed any untoward accidents. At other times they give smaller doses of digitalin, and repeat them till the desired effect is obtained: Thus, instead of the one full dose of fifty drops, they give twenty drops per day for two days and then stop. But in any case, it is not desirable to exceed the quantity of sixty drops of the centesimal solution in seven days.

They affirm that the digitalin is particularly efficacious when the pneumonia or influenza is not accompanied with digestive troubles.

In a dozen cases of pneumonia treated by this method, these authors have not had a single case of death, and they have obtained recovery in two desperate cases of double pneumonia. Under the digitalin treatment, the patient generally feels decidedly better the second day after the full dose has been administered. The delirium ceases, the albumin diminishes, to soon disappear altogether, the temperature falls and the pulse becomes less frequent but more energetic; the diuresis augments; the congestions are dissipated. and the pneumonic exudate is absorbed more rapidly than in cases where the digitalin is not employed. In short, the digitalin accelerates the normal evolution of the malady.

What has been said of frank pneumonia applies also, according to these writers, to the broncho-pneumonic determinations of la grippe, and the same treatment is also useful in grave or complicated gastro-intestinal forms, especially when the pulse is feeble, small and rapid.

In cases of la grippe simulating tuberculosis the digitalin has given better results than any other treatment. Another fact has been noted by MM. Gingeot and Deguy—the employment of digitalin may render service from the point of view of differential diagnosis. They affirm that they have never been able by means of digitalin to obtain an antithermic effect in acute tuberculosis or typhoid fever; on the other hand, in cases of the grip simulating miliary tuberculosis or typhoid fever, the administration of digitalin has always brought on rapid defervescence, while ameliorating the other symptoms.

Thus they relate that a patient presented himself for treatment with intense dyspnœa, a decidedly pneumonic aspect and a focus of subcrepitant rales in the right infra-axillary space. The diagnosis of pneumonia in the first stage was made, and 30 drops of the solution of digitalin administered. Next day the condition of the patient was worse, and 20 drops more of the solution was given but without any improvement in the pulse or general state. The day following the patient succumbed in coma. The autopsy showed that this was not a case of pneumonia, but of typhoid fever with all the characteristic lesions of Peyer's patches.

The conclusion drawn from the study of this and like facts is that when the administration of digitalin to a person supposed to be affected with pneumonia or influenza does not slow the pulse and ameliorate the condition, there is reason to believe that an error of diagnosis has been committed.

Sciatica Treated by Compression of the Sciatic Nerve.—Arullani (*Gaz. d. Osp. Ed. Clin*, Feb. 28), has improved upon the digital compression practiced by Negro, by substituting a double pad apparatus for the fingers. He has applied it to forty patients; two were improved, six proved rebellious, but all the rest, thirty-two, were cured. He recommends compression of the popliteal cavity beside the point where the sciatic nerve emerges in the thigh. The general condition of the patient and the location of the pain are better criteria for the success of the measure than electric tests or the duration of the trouble For details of the Negro method see MEDICAL TIMES, August 1896, page 254.

Non-Ligation of Umbilical Cord.—Kellar (*Pacific Med. Jour.*) advocates non-ligation of the cord. He has practiced it in more than two thousand cases, and after careful observation of these and other cases summarizes as his views: (1) Ligation in man is unnecessary, because (*A*) it is not required at birth of any other animal; (*B*) the imagined necessity to prevent hemorrhage does not exist; (*C*) to tie for cleanliness is superfluous; (*D*) it is unreasonable to consider such an imperfection as need of ligature exists. (2) Ligation is in many cases injurious, (*A*) because it may justly be considered the cause of secondary hemorrhage; (*B*) by interfering with desiccation and thus preventing separation, it gives rise to ulceration with not unfrequent consequences of erysipelas, fungoid excrescence, etc.; (*C*) it causes inflammation of funicular vessels by keeping them distended with unnaturally retained blood, hindering their normal obliteration and laying foundation for phlebitis, jaundice, pyemia, etc.; (*D*) by preventing normal escape of blood and thus causing hyperemia and congestion of portal circulation, it may lay the foundation of numerous infantile affections apparently originating in congestion of these vessels. (3) Certainly in some, and probably in not a few, cases ligature has been directly fatal: (*A*) numerous fatal cases attributed to ligation have been recorded by the highest authorities; (*B*) it can be seen in the newborn that the ligature maintains the right ventricle in a state of distension, otherwise relieved by bleeding from the hypogastric arteries, and this prevents renewal of action if the heart has stopped, or hastens its stoppage if it is failing; (*C*) in many instances removal of the ligature has saved life when other remedies have failed.

Acetonemia in the Mother as a Certain Test of the Death of the Fetus.—A correspondent of the *Canadian Journal of Medicine and Surgery*, July, 1897 (*Med. Rev. of Revs.*) says: "Sometimes it is very difficult to diagnosticate the death of the fetus. The greater number of the signs relied upon by physicians (absence of active movements of the fetus, sinking of the abdomen and softening of the womb, escape of milk from the breasts, disappearance of the sympathetic phenomena of pregnancy, etc.) are uncertain, and even the sounds of the fetal heart, observed on different occasions, may sometimes leave the practitioner in doubt.

"Dr. Knapp contends that the appearance of acetone in the maternal urine is a certain sign of the death of the fetus. In ten cases, taken at random, in which all the symptoms pointed to the death of the fetus, tests of the mother's urine, made on several occasions before the expulsion of a more or less macerated fetus, always indicated the presence of a marked quantity of acetone.

"Chautard's solution of fuchsine (5 centigrammes of fuchsine to 100 grammes of water, and decolorized by sulphurous acid) is recommended for the test.

"To make the test pour into a test-tube containing 15 or 20 cc. of the urine, a few drops of the reagent. If acetone is present, the urine instantly turns of a violet color, the depth of the shade varying with the quantity of acetone present in the urine."

A Pathognomonic Sign of Acute Miliary Tuberculosis of the Lungs.—The close resemblance of certain cases of acute miliary tuberculosis to typhoid fever is remarked upon by all authorities, says the *Kansas City Medical Record*. Even such accurate tests as Widal's and Elsner's are said to fail sometimes in the early differentiation of these two diseases. Such being the case, any diagnostic sign of real value is a welcome addition to our store of knowledge. In the *New York Medical Journal*, of April 17th, Dr. David Reisman again remarks the peculiar fric-

tion fremitus produced by the rubbing of a multitude of tubercles just beneath the pleura. The sound, he says, is heard during both inspiration and expiration. It is distinctive in character, being very soft and fine and separate from the bronchial rales. The fremitus is perceptible to the touch as a gentle rubbing, much softer than any rhoncal fremitus the writer ever observed. The case reported, a married painter twenty-five years old, lived about three weeks from the inception of the disease. And the diagnosis was confirmed by necropsy.

New Test for Albumin.—A new and delicate test for urine is described by Carres in the *Journal des Sciences Medicales de Lille* (*Med. Rev. of Revs*). It consists in putting into a small tube with water an amount of resorcin equal to one-third of the water in the tube. When dissolved the urine is allowed to flow gently along the tube wall down to the resorcin solution, when a ring of albumin is formed if albumin be present. Though some other urinary constituents give the same ring, yet this disappears on boiling, while an aluminous ring persists. The test is very delicate, experiments showing that it reveals albumin where nitric acid has failed.

Carbolic Acid Gangrene.—Leusser (*Muench Med. Woch.*, Nov. 15, 1896) has observed gangrene of the finger tips and portions of the skin in three cases after applications of strong solutions of carbolic acid. The laity and nurses show a marked ignorance and carelessness in the use of carbolic acid. From former observations it is evident that 2 per cent. solutions can produce gangrene if applied as a moist dressing and covered with gutta-percha. The author thinks it advisable to interdict its common sale.

"The Most Painful Operation Known to Surgical Science."—A correspondent of the *London Daily Telegraph*, in describing a visit to the military hospital at Larissa, gives the following harrowing account of what he saw there: "The medical department," he says, "did its best under the unfavorable conditions. Operations, however, had to be performed without the administration of narcotics. Thus one man, whose face had been horribly disfigured by bombs, underwent the most painful operation known to surgical science—that is, the cutting out of the optical nerves—without the aid of anæsthetics. This man was a German and his exquisite suffering painfully impressed me."

Surgical Remedy for Adolescent Insanity and Masturbation.—Dr. J. B. McCassy (*Lancet Clinic*, Oct. 3, 1896) has invented an operation for the temporary suspension of the sexual activities in order to restore physical and mental health in these cases. It consists in the division or exsection of from one-half to one inch of the dorsal nerves of the penis, and is said to be simple and almost bloodless. It would cause anæsthesia and destroy the possibility of masturbation by friction.

Hydrastics Canadensis in the Treatment of Bronchial Catarrh.—In the *Centralblatt fur Innere Medicin*, of May 1, Dr. M. Saenger, of Magdeburg, gives his impression of hydrastis, which he states he could not forego in the treatment of bronchial catarrh, acute as well as chronic, for it enables him to dispense with the use of opium and its derivatives almost entirely in the treatment of tuberculous subjects.

He has employed it in the form of fluid extract almost exclusively. To adults he gives twenty, twenty-five or thirty drops four times a day in a little sweetened water. Larger doses may be used. He has not found hydrastinine so trustworthy as the fluid extract. He has never observed dangerous or unpleasant effects from the doses of the fluid extract mentioned, but he remarks that very large doses may give rise to angina pectoris in the subjects of heart disease, and in very debilitated persons.

Carburet of (or Unslacked) Lime in Cancer.—Quite a number of respectable physicians (*Charlotte Med. Jour.*) have recently used carburet of lime in cancer of the os uteri, where there is the hemorrhage which many are likely to ascribe to a change of life. The arrest of bleeding is very prompt and lasting. Some introduce a solid piece of the lime directly on the cancer, usually in the os. Some pulverize it and dust it over the abraded or cancerous surface, freely packed absorbent cotton next to the cancer, then a larger one of oakum, then the cotton to hold the lime in contact with the abraded surface and prevent the foul discharge from dribbing away. Do this every third, fourth or seventh day, according to discharge. This style of pack is very efficient, and there is no reflex nervous trouble, which sometimes arises when too much iodoform is used. The natural secretions, mixing with the lime, make acetylene gas, which relieves pain, prevents fetid discharge and arrests hemorrhage and leaves a smooth, grayish surface.

Oxygen in the Treatment of Diseases of the Nose and Ear.—The method of applying oxygen in the treatment of ulcers and various diseases has recently been described by George Stoker, who devised the method about two years ago. In treating nasal affections he fills the bags, containing about one cubic foot, with equal parts of oxygen and pure air. The nose piece is passed into one nostril, the other nostril being plugged with cotton wool; the patient is directed to breath through the mouth, the taps are turned on and the treatment is begun. In ear cases the only difference is that the terminal piece is placed in the external auditory meatus, and in case of either ears or nose it is desirable to have several different sized terminals to fit different sized orifices. The oxygen should be allowed to pass into either the nose or ear from three to six hours daily. In nose cases it is best to use it about half an hour to an hour at a time, giving intervals of rest between the times. If used for more than an hour in nose cases it is apt to cause headache. The only additional treatment is using warm water to cleanse the parts during the day; the necessity for doing so seldom or often will, of course, depend on the amount of the discharge, but it must not be done less than twice daily.

He reports the notes of four cases—two of ozena and two of suppurative middle-ear disease. These are typically bad cases, and seem to amply illustrate the results of the treatment.

Ferratin in Amenorrhea.—In a clinical report on the value of Ferratin in anæmic conditions, Dr. C. Earle Williams (*Amer. Therapist*, August, 1897) reports the following interesting case, typical of frequent occurrence in general practice:

T. P., age 19. Came under my treatment May 10, 1897. She had not menstruated for five months. Her complexion was chlorotic, with large dark rings around the eyes. There was dyspnœa and palpitation on the slightest exertion, constipation sometimes lasting seven days. Vicarious secretion was represented by frequent nose bleed. Blood count showed red cells 3,000,000, hemoglobin 52 per cent. She was placed on ferratin, gr. viij, four times daily, with aloetic purges, combined with perfect rest. June 15: great improvement in every way. Red cells 3,700,000 per ccm., hemoglobin 65 per cent. The dose was increased to gr. xij, four times a day, unintermittingly until Aug. 1, resulting in complete recovery. All the distressing symptoms had left; menstruation returned, quantity and quality good; red cells 4,600,000, hemoglobin 92 per cent.

Dr. Williams' report, covering six varying cases in detail, is a practical paper of general interest.

A Contribution to the Therapeutics of Iron.*—It is well known that the therapeutic value of the various iron preparations differs greatly. This is shown *a priori* by the abundance of manufactured products of this kind. My experience relates chiefly to three preparations, pilulæ chinini cum ferro, formula magistralis of Berlin, liquor ferri albuminati, and the neutral Pepto-Mangan (Gude). My results with the first of these three remedies have been very indifferent, while with the liquor ferri albuminati of the pharmacopœia they were somewhat better. I have instituted accurate examinations, however, with only Gude's Pepto-Mangan, and the data given further on relate to this remedy alone. Owing to my limited experience with the many other preparations employed by various authors, I

*By Dr. Gellhorn, Assistant Physician to the Private Gynæcological Clinic of Dr. Mackenrodt, Berlin. (From the *Therapeutische Monalshefte.*)

would not designate the Pepto-Mangan as a universal remedy, or as the only efficient preparation.

In the case of one of my patients I proceeded as follows: I prescribed Pepto-Mangan (Gude), one teaspoonful three times daily after meals, and regulated the diet in accordance with the directions furnished with the preparation. Sour and fatty food, as well as raw fruits, are to be avoided under all circumstances. Fritsch (Diseases of Women, 1892, pp. 469) advises, indeed, that the desire for acids manifested by chlorotics should be gratified. According to my experience, however, this craving for acids is to be regarded as a pathological condition of the alimentary tract, which is made worse by further supply of acids, but can be successfully overcome by an unstimulating diet. In cases where the social conditions in any way permitted I allowed the patient to take a small glass of red wine three times daily, but never during a period of one hour before and after the administration of the medicament, in order to prevent the combination of the tannic acid contained in the wine with the iron. The use of potatoes was restricted as much as possible, at least, during the first four weeks. Furthermore, I resorted to the dietic regulations customary in these cases, but changed them to advantage when, as so often happens, obstinate constipation was present, following in this respect the suggestions of Hebra, which have recently been again advocated by Ruge (Transactions of the Obstetrical and Gynæcological Society of Berlin, 13, III, 1896), and obtained generally excellent results. In contrast to several authors who made it a practice to remove any existing dyspepsia before resorting to the use of iron, I have followed the method of V. Ziemben and Baumler, of at once administering iron—unless the presence of a severe gastric affection, especially ulcer of the stomach, could be positively determined—and observed as early as the end of one or two weeks an increase of appetite and subsidence of the gastric disorder.

International Congress of Medicine at Moscow, Aug. 19-26, 1897.—*General Therapeia of Surgical Tuberculosis, More Especially the Osteo-Articular.*—M. Lannelongue gave a brief history of this question, recalling the different conceptions of the tubercular lesion and reaching the recent epoch in which the works of Martin, of Villimin and Koch gave a precise and indisputable form to the theory of contagion. Surgery then entered into the work, and at once large and typical resections were practiced, which were soon recognized as a capital error, because of their creating great functional disturbance, with much injury to the organism. But a most happy suggestion grew out of all this, *viz.*, that of prompt intervention as soon as possible after the beginning of the disease, and this plan of speedy action should be inscribed in letters of gold in all the forms of treatment and make a prominent landmark for future guidance. The cure of the initial toxic center is not only the means of avoiding deformity but of suppressing the secondary infections in its neighborhood and at a distance and of the general diffusions that are a perpetual menace to the organism. From this epoch dated the idea of the cure of tuberculosis that was originally so difficult of conception. With the knowledge of the microbe the morbid unity of tuberculosis was finally recognized, and this knowledge gave a new direction to the therapeia.

But the question was a complex one; a single method could not suffice. Thus active surgery lost its force when a tuberculous center developed in an inaccessible region, such as the spine, for example, or where there was no indication of its exact locality, as in the majority of epiphysal osteites, or osteo-synovites at the beginning. Here an indication of the first importance, at once curative and protective, is furnished by the methods which assure perfect repose of the parts, and preventing such deforming positions and attitudes, like those of the spine, which would be inevitable without them.

M. Lannelongue then proceeded to give the method of operative intervention as follows: Relieve the organism at once of the bacillus and its products of the tissues, living or dead, dry or liquid, that are created by it. This can be done in two different ways. By the one, attack the region by bloody methods, make extensive resections excavations, extraction of sequestra, curettage, or total or limited arthrectomy. By the other, less attractive measures, by introducing an antiseptic liquid into the invaded region, or medicaments that seem to be more susceptible, such as iodoform, of action upon the tubercular bacillus, or finally, a diffusible liquid, not more irritating, but necrosic, in view of the transformation of the tissues without destruction or eschar.

Each kind, or more properly, each case, is peculiar, if only because of the variety of locality, which tends to make it special. Thus it is not a curettage rather than an osseous grating, or an extirpation of the soft parts, or an arthrectomy rather than a synovectomy which is best to practice, but an operation conformable to this purpose, viz., a prompt intervention which addresses itself directly to the primitive toxic center, osseous or other, and to all the sources, fungosities, abscesses or fistulæ, that they engender. By prompt intervention the chance of leaving no bacilli is greater, the tissues are less affected, infection by other pyogenic elements is avoided, and the local resistance and that of the organism are greater. Finally, M. Lannelongue enumerated the bloodless methods, and made a place for the sclerogenic method. His purpose, which he easily attains, is the fibrous transformation of the tuberculous tissues, and of the fungosities. It cannot be denied that this transformation has a decisive action upon the cure, by putting a stop to the destructive processes. The agent employed by him is neither a specific nor simply an irritant, but the closest possible imitation of what is done by the organism in its struggle against the bacillus; it is an appeal to phagocytosis. In effect it destroys the tuberculosus tissues, without exterior elimination, and there ensues a rapid erruption and an extraordinary afflux of leucocytes which kill the bacilli, and subsequently form a fibous tissue, or in other words, constitute processes of reparation in place of the morbid tissue. Sometimes this method completes the cure itself, and again it requires the combination of complementary operations necessary for the extraction of sequestra, and the removal of liquified toxic deposits, etc. Surgery may then, without danger, attempt, in the great majority of cases, the total destruction of the entire tuberculous center of infection, and it fails only when it fails to remove the very smallest parts. To discover the specific means which will paralyze the fecundity of the bacillus, by rendering it, living or dead, incapable of doing its deadly work, such is the final solution of the problem. We do not know the means for attenuating the virulence of the bacillus. Many have been tried in turn, and all the serious efforts, despite the announcement of a few encouraging results, have terminated in establishing the impotence of modifying, in man, the vitality or the virulence of the microbe. The question then, said M. Lannelongue, in conclusion, remains unequivocally. If the microbe of tuberculosis carries within itself the remedy against the incalculable destruction with which it effects humanity, it becomes necessary, at all hazards, to tear the secret from it, and compels its surrender. If not, it behooves us to change its methods.—*Translated by J. A. Carmichael.*

Effect of Chloroform and Ether Narcosis on the Liver.—Bandler, of Prague (*Mitth. A. D. Grenzb. E. Med. U Chir.*, No. 3, Vol. 1; *J. A. M. A.*), performed a herniotomy on a hitherto strong, healthy man; who was, however, a hard drinker, using chloroform as an anæsthetic. A few days afterward icterus developed and the patient died with cholemic symptoms. As leucin and tyrosin were found in the urine, *intra vitam*, the diagnosis of acute yellow atrophy of the liver had been made, and it was confirmed by the necropsy. Bandler has since been studying the literature on the subject and experimenting on animals to determine the exact effect of chloroform narcosis on the parenchymatous organs. He states that every case of chloroform narcosis showed degeneration of the liver cells afterward, while this degeneration was absent or very slight after ether narcosis. He therefore urges the importance of avoiding the use of chloroform in cases where there is reason to suspect that the liver is not perfectly normal, and using ether instead.

MISCELLANY.

—Dr. Marcel, of London, thinks there is no remedy for asthma equal to the bicycle.

Dr. Luys, of the Salpetrière Hospital, Paris, has presented the faculty of medicine with his collection of 2,200 brains.

—Dr. Hall says: "If you wish to smooth the skin of a lady's face which has become rough give her ten drops of Bourbon's four times a day."

—The late Dr. J. Lewis Smith said that the first hindrance to the successful treatment of diseases of infancy is the disinclination of mothers to nurse their own children.

—Dr. Etheredge, of Chicago (*Pract. Med.*), says that when a woman complains of a dull, steady, boring pain at the lumbo-sacral junction you may rest assured she has uterine disease.

—Of 1,879 cases of mammary cancer collected by Williams, only sixteen were found in the male. Bryant found it four times as frequent among multiparæ as among nulliparæ.

—Thyroid extract, *Practical Medicine* says, is now recommended for dwarfed children. It is said to cause an increase in the height, although it does not improve the mental condition.

—Dr. Hector Mackenzie thinks the thymus gland possesses no specific action in Graves' disease. He has found it to possess no specific action on the heart, the goitre or the exophthalmos.

—The Prince of Wales ranks as a member of the medical profession, having taken the required oath and received his diploma from the Royal College of Physicians and Surgeons, July 19.

—Sansoni reports great benefit from the use of bismuth subnitrate in four cases of ulcer, in two of excess of hydrochloric acid in the stomach, in two cases of cancer and in hysterical vomiting.

—Members of the Medical Congress in Moscow have been treated, both by the Government and the professors, with great courtesy, and everything possible done to make their stay pleasant.

—Sansoni says that *epitaxis* in children, and particularly if the attacks be recurrent, is frequently significant of organic cardiac disease, and should always point to thorough examination of the heart.

—The statistics of diabetes show that the disease is steadily and rapidly increasing in all the great cities of Europe. This is instanced by a contemporary as "one of the penalties of advanced civilization."

—New York has no less than 400 miles of paved streets, of which 16 miles are swept three to four times a day, over 200 miles twice a dav and the rest once a day. This costs $3,000,000 a year, and it is worth it.

—Wine made from huckleberries is now sold in large quantities in Austria and Germany. It is cheap, and Prof. Pettenkofer, a hygienic authority, says it is much better than the *vin ordinaire* made from grapes.

—After fifty-one years of dignified existence, the *Union Medicale* closes its publication with this year. The three principal editors, Richelot, Richardière and Eugene Rochard, join the editorial staff of the *Bulletin Medical*.

—*Prevention of Gonorrhœa.*—Blodeweski says that instilling one or two drops of a 2 per cent. solution of nitrate of silver into the meatus after coitions, a third drop being allowed run over the penum, prevents gonorrhœa by killing the gonococci.

—A chance to make a fortune is offered by the champagne house of Heidsieck, who will give 100,000 francs for a method of rendering corks permanently impervious to liquids and gases, including air, whilst retaining their elasticity and other good properties.

—Watu recommends in the *Charlotte Medical Journal* for the treatment of diarrhœa in infants a regimen of boiled water cooled to a proper temperature, given in small quantities every half hour, for eight or ten hours, to the exclusion of everything else.

—According to English statistics, the number of days lost in their work by the Government employes on account of slight indispositions, was 154 by the women to 100 by the men. In France the proportion was even larger, being 174 by the women to 100 by the men.

—In a recent cholera outbreak in India the source of infection was eventually traced to clothes used for dish-wipers, which became the resting-place of the germ while being dried on the ground some thirty yards from a hut in which cases of cholera had existed a few weeks previously.

—Dr. Rumbold, of St. Louis (*Pract. Med.*), says that he always sprays the nasal cavity with vaseline as hot as it can be borne by the patient after any operation in the nose which causes hemorrhage. No matter what the amount of hemorrhage, Dr. Rumbold says this will always promptly check it.

—To differentiate between a tumor of the right kidney and a tumor of the liver, inflate the rectum and colon. If the tumor is of the kidney the inflated intestines will lie in front of it, and there will be a tympanitic resonance; if the tumor is of the liver it will be rendered more prominent and dullness will occur on percussion.

—"Doctor, what do you think is the matter with my boy?" "Why, it is only a corrustificated exegesis antispasmodically emanating from the source of the animal refrigerator, producing a prolific source of irritability in the pericranium, blunting his mental profundity." "That's about what I told Betsey, but she 'lowed it was wurrums."

—The American Pediatric Society is making a collective investigation of infantile scurvy as occuring in North America, and earnestly requests the co operation of physicians, through their sending of reports of cases, whether these have already been published or not. Address, J. P. Crozer Griffith, M. D., Chairman, 123 South Eighteenth street, Philadelphia.

—One of the accidents of Alaskan travel most dreaded by prospectors is contact with a poisonous vine, known as the creeping devil's club, *Panax Horridus*. It produces an appearance resembling the most aggravated erysipelas, with evident signs of constitutional infection. Free incisions are often necessary to extract the thorns, which incline to sink deeper and deeper into the flesh.

—According to the London correspondent of *Medical Progress*, "The most humiliating come-down for the bacteriologist is seen in the attitude he is forced to sustain relative to the diagnostic value of the Klebs-Loeffler bacillus. This bacillus is now regarded as not at all diagnostic of diphtheria, and its presence is given no particular significance in this regard by any well-informed man in London."

—In headache dependent on ovarian disease, a prescription has been found of great benefit composed of

℞

Ammonia bromide	ʒ vi
Ext. hydrastis fluid	ʒ ss
Tr. gentian com.	ʒ ip
Aqua	ʒ iv

Dessert spoon three times a day.

—Any one who has ever picked up with a bare hand a piece of intensely cold iron knows that the touch burns almost as badly as if the metal were red hot. Indeed, the action of great heat and that of extreme cold are so similar that a Hungarian chemist has turned the latter to account to prepare meats for food. He subjects the meats to 60° of frost and then seals it up in airtight tin cans. The result is that the meat which is practically "cooked by cold," will keep any time, and can be eaten with very little further preparation.—*Tit Bits.*

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TEN YEARS "IN WATER."

BY C. S. COLLINS, M.D.

MEMBER OF NEW HAMPSHIRE STATE BOARD OF HEALTH; MEMBER OF AMERICAN PUBLIC HEALTH ASSOCIATION; MEMBER OF BOSTON MEDICAL SOCIETY, ETC., ETC.

The writer has been teaching the gospel of self preservation for a decade.

Literally he has passed the whole of that history-making epoch "in water,"—not common, wet water that washes but cleanses not; not the distilled and therefore dead essence of filthy sewage-cursed rivers or ponds, nor even water from the mountain brook, laden with extracts of dead and dying vegetation, but "in a spring" of sparkling water, old as the eternal hills, pure as the waters of life.

How could one remain so long "in water" without suffering inconvenience, you inquire. Only the rare excellence of the water and the bull-dog pluck of the writer have enabled him to perform this feat amid the despair of hundreds "in water" who could no longer keep their heads above it.

What an age of history-making, that decade! What bright cheering memories come in to light it up! The shades of many a dusky warrior who pitched his wigwam near by, that he might drink health from its rocky depths—of Stark, Greeley, old patrons, by the way, and a host of other habitues of the unknown bourne come flitting past the writer as he pays his tribute, not to the bridge that has carried him safely, but to the water that has not overwhelmed him.

Ten years in water! Not as the reader begins to mistrust, actually in water, but only in the business, as one would say "in oil," "in wheat," or "in chips," as the gambler puts it. Enough in it, however, to learn some very practical lessons.

The first is, that American physicians have much to learn about so simple and yet so potent an ally as the American waters. Were the writer to enlarge upon this topic, it would monopolize this article, but its correctness would be demonstrated.

The second lesson is, that physicians spend too much time in everlastingly compounding. Every drug is of itself a compound, formed by a master hand for some useful purpose. Advanced therapy teaches that this single remedy has a special, well defined field of action, and is only hampered in its work by the addition of other compounds. So in the use of water. Nature has made of it a single remedy composed of active curative agents, arranged no man knows how, for the use of man.

Any modification of the compound disturbs the action. In all the world no two waters are precisely alike chemically, and it is proper to say, therapeutically. This is why it has never been possible to imitate any natural water. The ultimate part of any analysis has never been up to the 100 per cent. Clinical experience demonstrates the fallacy of all the claims of imitators.

During ten years "in water," the writer has witnessed the rise and fall of many a tablet and concoction said to contain, for instance, lithia in "definite proportions," simply because lithia, *per se*, after being separated from its native elements in which it formed a natural compound, is of no special value as a medicine. It is only when we find it in its natural solution, blended in the "unexplored laboratory" with other bases, that it yields up its richest blessings to afflicted mortals.

This is not the time for scientific data, so the numerous authorities upon this subject will not be quoted. The thoughts uppermost in the mind of the writer relate to the incidents of the decade under review.

The tradition of the "medicine man," the history dating back to the days of General John Stark and Mollie, the wonderful work wrought by the water under the observation of the writer for fifteen years before the epoch which opened in 1887 with the test by learned chemists, the discovery of its remarkable contents, the exploiting of a little company by a half dozen physicians who knew its clinical value, the instant success, the reorganization on a large scale, the rapid strides in popular favor, the greatest and grandest work in the history of spring waters, all these and the blessings of untold thousands who have found renewed health, have marked the decade of the "man in water" and crowned his humble efforts to give to the world what nature gives to him.

His dream was of a little spring in the old town of Londonderry, about which he believed his fellow doctors would like to learn, but to-day the realization is a world-famous water used in every club and hotel, and in thousands of families, because the doctors have called it good for the high liver, in every hospital, because of its remarkable purity and, the peculiar power it possesses of driving out uric acid.

The writer named this spring Londonderry Lithia, combining the town with one of its principal constituents, and expects to carry to his grave no greater honor than to have been intimately associated with every detail of its most remarkable history; of having devoted his life to the scattering of the knowledge of so great a boon; of having literally spent his days in Londonderry water.

In closing this skit, he acknowledges his deep gratitude to the entire faculty, through whose kindness only could the good name of Londonderry have been upheld and carried to greater fields of usefulness, and apologizes for the skeleton which could be padded and covered indefinitely, but not to the taste of the busy doctor, who is looking for concentrated goods.

ORIGINAL ARTICLES.

THE NEW MICROSCOPY AND EXPERIMENTAL THERAPEUTICS.*

By Prof. Elmer Gates, Washington, D. C.

THOSE who are foremost among the progressive microscopists of the world maintained that the microscope can be improved in its resolving and magnifying power in only two ways, namely, by increasing the angular aperture of the objective or by using light of shorter wave-length. The angular aperture, however, cannot be much increased—it has about reached its limit. The use of the shorter wave-lengths of the invisible ultra-violet rays promises a great improvement in magnification and resolving power, and the farther these improvements are realized the better will be the results achieved by the present form of the microscope.

As is well known, the image—the projected image—of the microscope can be photographed. But if the photograph be subsequently enlarged it reveals no details beyond those found in the photograph from which the enlargement was made. Persons unacquainted with the physics, chemistry and technique of photography and microscopy have imagined that a photograph could be enlarged, and that enlargement again enlarged, and so on, until details wholly invisible to the eye in the first direct picture would make their appearance. But this is not the case. The photograph of the hexagonal openings of a diatom, will, if enlarged, reveal nothing but the same openings of larger size and new details of the structures which compose these openings.

Now in planning an elaborate series of furthef researches into the psychologic nature of cell-life I was confronted with the fact that not enough could be known about the internal structure of cells to enable me to form safe conclusions regarding the modifying actions of the mental activities of these cells upon their own internal structures. The additional magnification attainable by increased aperture, by using light of shorter wave-length, or by any other known means, did not promise to remove the difficulty. In studying the effects of medicines on cells I needed a far greater magnifying power than that promised by the present form of the microscope. Accordingly I took up the study of improving the microscope, and applied to that study the methods of the art of mentation which have been the guide and the goal of my life's work, and I achieved a much greater thing than the improvement of the present form of the microscope, namely, the extension of the present instrument by the discovery of a double microscope which takes the highest magnification of the present instrument and deals with that result as if it were an unmagnified object to be viewed by a magnifying instrument.

Before we had the microscope we knew nothing of bacteriology, of the germ theory of disease, of ferments, of putrefaction, of the finer structure of the tissues of animals and plants. The microscope taught us that all living things are built up out of little lumps of living substances called cells—it created histology, and was the basis of our knowledge of the brain-cortex.

With the best result of the present microscope we are still in ignorance of the structural constitution of a cell. We know that it is composed of body-plasms, and nucleus and granules, septæ, and filaments and flagella, and that they have different outward forms and movements, but of their real constitution we are more profoundly ignorant than were the earlier anatomists of the structure of the tissues before the invention of the microscope.

Cut a piece of protoplasm into a number of pieces and each piece will still be alive, but it is obvious that there is a limit to this subdivision, and at such a limit we may encounter the lowest and smallest living units or somacules. The secrets of mind are housed within a cell, and there, too, lie those unexplored domains, the study of which promises a better knowledge of health and disease. Surely we may hope that the time is not distant when disease shall be abolished.

The new microscope enters into this domain; it goes where the present instrument cannot go. And how does it do it? I will explain in brief.

In the first place I use the best known form of microscope and prepare the slides and slicings and stainings in the usual way; and focus and illuminate so as to get the clearest and highest magnification of the object, when viewed through the usual occular. Then I remove the outer lens of the occular. It can be shown that the "virtual" image produced by the occular and eye, although it *looks* much larger than the "real" image, *adds no new details* to the real image. This fact is known to many modern microscopists. I therefore use the "real" image as the starting point for my new microscope.

I bring down upon this "real" image or "focal plane" the objective of my *second* microscope, and thus magnify the "real" image so to exhibit in it details which cannot be seen when this real image is viewed through the occular of the first microscope, or when it is photographed.

This seemingly impossible result is due not only to the special powers of the second microscope, but to an advantage which I have taken of a unique fact in photography, namely, that when two lines, markings or colors in an image are *too close together*, the sensitive plate will not record them as two but as one. Thus, when I ruled two lines upon a metal plate too closely together, the image of these lines thrown by a camera upon a sensitive plate would irradiate in the film and the picture would show only one line. The line of light falling on the photo-salt in the film *spreads by molecular irradiation over more area than the actual width of the line of light*, and there is also *diffused reflection* of this line of light by the semi-transparent substance of the film. To these two causes is due the fact that when the details of two structures are too close together in an image of an

* Written expressly for The Medical Times

object, these structures will photograph as one, and thus the detail will be lost. The line of demarcation between them will, in the film of the sensitive plate, be obliterated by the irradiated and diffused light. This I have discovered to be the reason why all details below a certain size are lost in a photomicrograph. The space between two points that are too close together on a film is acted on by the light irradiated by these points. That is the reason an enlarged photograph shows no new details. If the new details are to appear, the *image must be enlarged before* it is photographed. This is what I have done with my "second" microscope, and thus the "two points" are separated by magnification to such a distance that when the photograph is made the irradiation will not cover the space between the points.

But this is not as easy as it appears. The first microscope takes the light from a very small object and spreads it over an area of sensitive plate one hundred million times as great as the area of the object from which it comes, hence the light has only the 1/100,000,000 as great an intensity as when it started from the object. The light is already too weak to photograph with if best results are desired. But when I select some small area of this faint image and subject it to a still further magnification of six hundred additional diameters, this light becomes only the 1/360,000 as strong as it was, and the natural eye cannot see the second magnification because the light is too weak. But by remaining several hours in a completely darkened room the eye can see very faintly such a magnification. But when I put a sensitive plate in the place of the eye it acts cumulatively, and the faint light rays which the eye cannot clearly see will fall hour after hour upon the plate and gradually accumulate enough effect to make a visible picture. The structural lines which in the image of the first microscope are too near together to be photographed as distinct objects, are in the image of the second microscope 600 times farther apart and hence do not blend by diffusion and irradiation.

It is not very difficult to distinguish on a good photo-micrograph, made by best modern methods, lines which in the original object are not more than the one-ten-thousandth of a millimeter apart, but much beyond this the microscope and photo-micrography refuses to go, because, as I have pointed out, the images of these lines on the sensitive plate affect the photo-salts in the space between the two lines, and this is done by diffusion and irradiation.

This indicates clearly in what direction experimental researches must be made in order to improve the resolving power of the sensitive plate. I should say that the thinner the film on the plate, the less the diffusion, and that the more opaque the film to all kinds of light except to the particular monochromatic light used, the less irradiation.

But I found great practical difficulties in photographing with so weak a light, because of the *dust and aqueous vapor* in the air between lenses and the sensitive plate of the second microscope The light diffuses and radiates from the dust particles, causing these particles to be photographed on the plate with a distinctness greater than the image of the object, so that the image becomes "fogged" or "clouded" even to invisibility. Hence the total failures of my first experiments, in which I got only a fog-like picture. When I removed dust and aqueous vapor I still got "light-struck" plates, with the image almost entirely hidden. So I carried on my further experiments in a dark room, darkened to dark-heat, luminous and ultra-violet rays, and then I got results good enough to prove that I succeeded in magnifying the "real" image of the first microscope. The greatest difficulty arises in the focusing of the projected image of the second microscope upon the sensitive plate, because beyond 3' 0,000 diameters the eye cannot see the image. Hence a great series of empirical approximations must "find" the focus. I hope to repeat these experiments with apparatus specially constructed, and I believe that not only will most of these practical difficulties be removed, but I believe that I can accomplish in a short time the photographing of a magnification of more than 360,000 diameters, say from three to ten million diameters. But I am in no hurry for the last result. Some years of work must first be done with 300 to 1,000 additional diameters, to become acquainted with the rough outlines of the ultra-microscopic world into which we enter.

I am satisfied that life is mind—that vital phenomena are mental. A cell can feel stimuli and can *adapt acts* to *ends*. Now, only mind can do this—only animate bodies have minds, and mind alone it is which constitutes their life. A piece of gelatine is not alive, because it cannot adapt acts to ends, and because it cannot feel. Give it these powers and it will be alive—that is, mind is life, and vitality is mentality. Physiology becomes psychology. I consider it the best work of my life to have demonstrated that cells are the psychologic units of the animal body, and that in them, as in the animal, mental activity creates organic structure. The secrets of life are to be found in the study of Mind, and mind in its most elementary known form exists in the cell.

I therefore hail with delight the advent of the possibility of making a "second" microscope which will take the highest result of the first microscope and apply to it the further magnifying powers of a "second" microscope, because it will enable us to enter into the study of the constitutional units of the cell, as modified by the mental activities of that cell.

The mental state of the cell modifies its metabolism and creates its structural differences. Medicines and forces and foods affect the mentality of the cell, and within that domain are hid the secrets of life and death.

With an instrument which I have just invented I can make slices of tissues very much thinner than has hitherto been possible, even with the most approved microtomes. When the razor of the microtome is not sufficiently depressed at each successive slice it simply slides over the surface of the tissue without cutting it. The limit is somewhere about two thousandths of a millime-

ter in thickness. Now I found it necessary to obtain slices out of the middle of so small an object as a blood-cell or a bacillus. Under the microscope a blood-cell, being partly transparent, diffracts the light and its internal structures can not well be seen. So I devised the following method of obtaining slices of microbes and cells. I cemented upon a glass slide a single layer of cells, and then placed upon this slide another slide whose surface has been freshly covered with cement and allowed them to remain in contact until the upper and lower surfaces of the cells have become cemented to the glass slides. Then I introduced between the two glass plates a very thin blade of copper, the edge of which has been sharpened to the very finest cutting surface possible. A razor when sharpened by the most approved methods exhibits a very rough surface when viewed by a high-power lens and it is very far from being sharp. After a certain degree of sharpness has been obtained the fine edge breaks off abruptly, leaving a blunt instead of a sharpened edge. But copper is a finer grained metal and can be sharpened very much finer than a razor by using adamantine paper upon a glass surface as the whetstone. Then a still finer edge can be obtained by polishing it with a piece of soft wood, care being taken to get the edge exactly in the middle between the two surfaces on the copper plate. This blade is introduced between the two plates and then pushed along between them so as to separate them, and on its way it slices the cells in the middle. One of these plates is then cemented to another glass plate with the cut surfaces of the cells against the other glass plate and the slicing operation is repeated in a similar manner, thus producing a thin section of the cell. I have succeeded in producing a slice of about one-one hundredth, the thickness of the finest slice ever hitherto obtained.

It will be a matter of considerable surprise to biologists to see the amount of detail which the double microscope can get out of such a slice. In several weeks or months I hope to be able to make the apparatus to take a series of photographs of such a slice, and by pasting them together to secure a map of a transverse section of a cell.

The application of this same method to the telescope has been accomplished, and the first tele-photomicrograph was made the 16th of October. It promises to extend the telescope as far as the new method has extended the microscope and to open a new astronomical domain. It not only gives increased magnification, but it resolves details that cannot be seen by the old method. Thus I have placed some finely ruled lines at such a distance from the telescope that the lines could not be seen, and then I applied my lowest power microscope to the occular of the telescope and the lines were not only easily seen, but they were large and far apart. There is no reason to suppose that the same laws will not apply to celestial as well as terrestrial objects. As soon as I secure a siderostat I shall take some pictures of details upon the moon that have never before been seen.

Though the telescope may more powerfully impress the imagination, it will probably not be as useful to humanity as the new microscope, for that deals more directly with the immediate condition of health and disease. The bodily functions are all reducible to cellular activities, and the cellular activities are reducible to mental phenomena. The mind, which has embodied itself in a cell, controls the structure and metabolism of that cell and constitutes its animate character. I have discovered in another series of researches that astonishingly minute doses of medicine can profoundly affect the psychological activities of the cell, and I am profoundly convinced that a series of scientific studies along this line will lead to a new therapeutics and to a more rational etiology and sanitation. Another line of research proved that each emotional state produces in the liquids of the body a definite catastate of a poisonous kind, and that the good emotions augment anabolism. Still another line of research has shown that to rebuild the cellular tissue in any part of the brain simultaneously invigorates that part of the body which is in reciprocal relation to that part of the cortex. And lastly, I have experimentally shown that when the consciousness is limited by the attention to a particular locality of the body, as, for instance a finger or toe, and if this is continued for some time that an increased blood pressure and thermogenic activity takes place in that part. I have called this dirigation, and have found that by it profound changes of a metabolic character can be caused to take place in any organ or locality. I have also shown that every conscious mental activity creates in some part of the organism a new anatomical structure which is the embodiment of the memory of that experience. This is true even in unicellular organism, for when they are subjected to different mental activities new structures arise in the cells and these structures differ in the different cells accordingly as their mental activities are different. This shows that what we call Mind reigns causatively in the units of the animal body, as well as in the aggregate, of all the cells called the body.

The double microscope and the new microtome are instances of a great number of new technical facilities which will make this new line of research one of great interest and importance. There is unquestionably some fundamental truth in most of the pathies and isms which go to make up what is called medicine, but these truths are doubtless small aspects of some greater truth, the discovery of which will rationalize one of the noblest of professions. That a fundamental therapeutic law of a universal character has not yet been discovered I think will be generally admited. It is probable that such a law is closely related to the psychologic activity of cells in functional reaction with the cosmic universe in which they are adaptive organs.

Mr. Isaac Bell, who recently died at an advanced age, was the originator of the present system of managing the charities of New York, in place of that of the old board of governors.

MEDICAL EDUCATION.

By Elmer Lee, A.M., M.D., Ph.B., New York.
Vice-President American Academy of Medicine, Chairman Section on State Medicine, American Medical Association.

At the June meeting of the American College Association, held under the auspices of the American Academy of Medicine at Philadelphia, Dr. William Pepper addressed the Association on Medical Education. His remarks were deeply earnest, and in his retrospection upon the present medical educational system, he expressed dissatisfaction and disappointment. At the recent final examinations his students in the University of Pennsylvania showed such defective examination papers and so many had failed to reach the minimum standard that his pride was sensibly disturbed. The examination papers were carefully reviewed again and again, even to the fourth time, and then in despair turned over to a committee of disinterested examiners. It was a puzzle to him to determine a proper explanation. Was it the University of Pennsylvania that was to blame? Could it be the medical educational methods of teaching? Did the fault rest with the students themselves? Finally, was the responsibility with himself as teacher? These points were considered with great introspection and sincerity, constituting the body of the address.

The discussion which followed Dr. Pepper's address was energetic, and participated in by a score or more of the best known medical educators, all of whom, with few exceptions, followed the divisions of the subject laid down by the essayist. It would be interesting to present a report of the views of these several speakers, but the intention in this article is to lay my own ideas before the profession rather than those of my colleagues. Those who are further interested will find the symposium in the Bulletin of the American Academy of Medicine for October, 1897.

Life in itself is simple and needs few extrinsic helps to accompany it to the natural limitations, and termination in death. The lower animals run their appointed days without interruption. It is true that there are a few exceptions to this rule. The human patient, it is admitted, requires advice and guidance through much of his life to enable him to attain to three score and ten, and beyond. The plea which is made in the following remarks to Dr. Pepper's admirable address is for directness and simplicity of therapeutics, and against the multipharmacy with all its empiricism and harm. Sometimes I have stood a moment in front of a store window laden with a wealth of fresh, delicious fruits, and then a moment in front of a shop filled with chemicals said to be useful in the presence of danger of death, aware that sickness is actually caused by an absence of those fruit juices in the system, a wise use of which would naturally and speedily restore the organism to health by supplying the elements of nutrition in the highest perfection. Unhappily such is not the prevailing interpretation, and the popular system goes on and on to the destruction of useful and beloved members of the social organization. It has seemed to me upon reflection that the juicy fluid of one whole, sweet orange, for example, would far more than offset any effect for good which might be thought to reside in ever so little or much of some refinement of coal tar, remedies, just at this time much in vogue. The variety of fresh chemicals organized by nature afford an endless list of therapeutic agents which can only do good and never harm. There is no thought of constructing an exclusive system of therapeutics from fruit juices, but it is quite near my purpose to direct attention to the hopelessness of a standard for practical therapeutics, with a system based upon organic and inorganic chemicals suitable only for use in the mechanic arts, and taken from their proper uses either by the guile or ignorance of medical men who, unwittingly, have wandered away. "Read all the advertisements," a certain medical journal enjoins upon its subscribers. To what end, pray? Is the practice of medicine to be learned from this source? Decide each one for himself.

What think you of the state of the profession of medicine when the physician must needs turn to the friends to ask if it is their desire that the sick one should have this or that "anti-toxin"? A leader among physicians tells me that for the sake of public opinion he would feel called upon to inject a proprietary article of the anti-brand, if he had a patient with a certain kind of sore throat. Who are the worthies that make this public opinion? Does it not seem that it is carried too far when laymen mark the border lines of practice, and public sentiment (enterprising journalism) claims to itself the prerogatives of a science?

In the presence of both professional and lay sentiment, with a modern fiction like that of *Bartholow's Practice* in the hands of medical students, is it strange that the best medical students in the land find it well nigh impossible to appropriately comprehend the teaching of the practice of medicine?

I commend the frankness and sincerity of Dr. Pepper in coming out and telling us of his hopes and disappointments, as a great teacher in one of the greatest medical institutions in existence. Why do we as physicians not come together and weed out this overcrop of useless and harmful collection of ancient and modern therapeutic empiricism? Why do we not let go?

The following story by Elbert Hubbard, aptly explains the difficulty:

Once there was a farmer who bethought him to break a pair of steers. Having yoked them they started to run, and evidently being built for speed they ran fast. Seeing he could not head them off, the farmer seized each steer by the tail and yelled: "Whoa, Buck! Whoa, Barney!" and the more he yelled whoa the faster ran the steers. When they shot past the grocery they were going a mile a minute; the farmer was hatless and stepping twenty feet at every stride, but still lustily yelling, "Whoa, Buck! Whoa, Barney!" The setters rushed out of the grocery and gave advice to the farmer thus: "Let go them steers!"

Now no steers run forever, they can't; and the next day when the farmer got back to town the setters asked him why he did not let go, and he, being a Yankee, answered their question by asking one: "How t'ell could I let go when it was all I could do to hold on?"

REMARKS AT THE CONCLUSION OF DR. PEPPER'S ADDRESS.

The floor has been occupied by the most distinguished and eminent physicians, so that I have hesitated to rise. The remarks of Dr. Pepper have left a deep impression in my mind; the conclusion is that as he had A.B.'s for his students, it does not follow that failure to pass the examinations is the fault of the University of Pennsylvania, than which there is no better equipped institution for the teaching of medicine, nor is it the fault of the teacher or students. Then, gentlemen, where is the weak point in question, and what is the cause of these low examination percentages and sad disappointments of which Dr. Pepper speaks? Is it not possible the oft-repeated statement which medical men make, and made by one no less distinguished than Dr. N. S. Davis, that it takes every student ten years to revise that which was learned in the medical college, indicates the weak point in the medical educational system? Is it not probable that that which is taught, not the one who teaches, not the method by which teaching is performed, but the thing itself may be the cause of confusion and disappointment in examination papers? Do you not know that the practice of medicine is a system of empiric contradiction as popularly taught at the present time? Why is it that an array of papers, counting up to nearly 800, appears on the programme of the American Medical Association which will meet in this city to-morrow? If medicine were a science or anything approaching science, how would it be possible for so great a number of independent papers to appear? Is it possible to present such a list on engineering, mathematics, in fact any branch of science or any division of art except that of medicine? My opinion is, not wishing to disagree with anybody, that the trouble in medical education is largely with that which is taught, not with the teacher, because how can we hope to excel Dr. Pepper? How can we ever hope to excel the equipment of the University of Pennsylvania? What better can we desire than a degree of A.B. from Harvard for our medical students? Yet Dr. Pepper tells us that these A.B. men are among those whose examination papers fall below the minimum requirements. It would appear then that the systematic college training was not an aid to a comprehension of medical theory and practice. In my recollection as a student of medicine, the discouraging effect owing to the inconsistencies and confusion of materia medica was so great that it almost determined me to change my plans and enter some other profession, for it seemed to me well nigh impossible to master the subject as applied to the treatment of disease. Fifteen years of active experience teaches that it is not possible to harmonize the materia medica, and that it is impossible to understand practice and surgery, or any single one of the branches of medicine under the present system of accepted beliefs, the basis upon which these empiricisms are founded. Empiricism is at the root of the practice of medicine; physicians' opinions differ according to the length of time since they left the medical school; according to experience and to incidents of life; these formulated differences of belief, called papers, when read before our scientific bodies and printed in books, constitute the material which is placed before students and studied as the science of medicine. It that right? When the science of medicine becomes such we will not hear reports like that from Dr. Pepper. The hope of the future is in the reduction to simplicity of our now complex and intricate practice of medicine. And when that time comes it seems to me that a very large percentage of these confusions and disappointments to which Dr. Pepper alludes will melt away and disappear, and nothing further will be heard of them. These observations by Dr. Pepper point to the necessity of reform in the theory and practice of medicine, and a sweeping flourish of the "blue pencil" among the matter of the text-books, so large a part of which is veritable contradiction and "dry sticks." Teach the A.B.'s and others nature instead of illusions and theories, the use of harmless remedies and hygiene in therapeutics, and then even A.B. medical students will comprehend the subject, and pass examinations successfully, to the delight of themselves and the pride of their teachers.

10 West Forty-ninth street.

THE INTRAVENOUS AND SUBCUTANEOUS INJECTION OF NORMAL SALT SOLUTION IN SHOCK AND SEPTICÆMIA.*

By Homer I. Ostrom, M. D., New York,
Surgeon to the Metropolitan Hospital, Blackwell's Island.

WHEN we are able to eliminate from operative surgery shock and septic poisoning, we will have removed the two chief factors which the surgeon must consider in making his prognosis of an operation. For, after all, operative skill, technique, the facility we should all seek to acquire, does not count for as much in the mortality list as the nice operator is inclined to believe. I doubt not we all have seen recoveries follow the most bungling and unsurgical operations. Such cases get well, or at least do not die, and we are at a loss to understand how, or why, failure frequently follows the most perfect and careful technique.

I wish to lay stress upon the fact that these cases do not die. But though a case may not succumb to the operation, the treatment should be recorded as a failure, for the conditions for which it was undertaken remain the same. This but too frequent result in the hands of the unskillful operator, I think we may attribute to the indignity with which he treats the tissues and or-

* Presented to the Bureau of Surgery, New York State Homœopathic Medical Society, Oswego, October, 1897.

gans he handles. The patient does not lose her life, but her condition is rendered less endurable than before the operation. I think many of the failures in abdominal surgery that are recorded are due to just this fact, and not because the operation was unnecessary, a criticism frequently heard nowadays. Because of the brilliant results in the hands of the expert and experienced operator, every one thinks he can open the abdomen and remove its contents. His patient lives —there is a great recuperative power on the part of nature—but the so much desired, and on her part confidently expected health does not return, and she is relegated to the position of the chronic invalid, to that class of whom the physician says: "She could not have lived had I not operated just at that time." Poor thing, possibly she would rather die, but she was not given the choice, and the promise of health is an allurement that few can resist. Lack of technical skill in operating may, by prolonging the operation, and the duration of anæsthesia, increase the shock and thus indirectly contribute to the unsuccessful issue, but aside from this I think we cannot lay too much stress upon this factor in operative surgery.

If we are unable to eliminate shock and septic poisoning from surgery, we can do much to control their development, and to combat them when they are developed. We have already said that rapidity of manipulation and skillful work will act in favor of the patient, by diminishing the quantity of the anæsthetic and the length of time the patient is under its influence. This is a great point and one that is not sufficiently considered. The quantity of the anæsthetic administered must be in direct ratio to the risk of the operation, for it is not possible that any drug, acting as powerfully upon the system as either chloroform or ether, can be exhibited without profoundly effecting the entire organism. Neither chloroform nor ether is rapidly eliminated from the blood, as shown by the odor that is perceptible from the patient two and even three days after a prolonged operation. The effect of the anæsthetic thus contained in the system may not be measured by the shock induced, but, as has recently been suggested, the blood may become profoundly altered, not only as to its nutrient qualities, but its germicidal properties as well.

Septicæmia is to day, thanks to the more general adoption of the principles of aseptic surgery, under our control, and the time will come (a period which we as surgeons should do all in our power to hasten) when the operator will be held responsible if a clean case becomes septic. I am less inclined than formerly to include autoinfection, independenly of other conditions, among the etiological factors of septicæmia. That organisms may exist in the system at the time of the operation, capable of generating septic poison, there is little doubt, but inasmuch as such organisms were anti-operative, unless the patient was septic before the operation, or conditions were developed by the operation (which is not usual) the septic germs that have not been sufficiently active to produce the well-known effect would meet no conditions from the operation, *per se*, to call them into sudden activity.

Between ourselves and the influences and forces for good or evil that surround us, there must be harmony and adaptability on our part, or no results will follow contact. In other words, we must be or place ourselves in an attitude of attachment in order to draw from the world around us. A further discussion here of this subject would lead us too far, but applying it to the present question we find that septic organisms, following the laws of life, will not develop unless the conditions are favorable for their growth. Hence, with this reading, auto-infection is impossible in its strict meaning, and can only be admitted in the etiology of septicæmia in combination with something that places the system in harmony with such organisms. It will thus be seen that self-infection becomes a name only, unless we include in its definition a conception of something for which the operator is responsible.

With the condition of extreme prostration that may follow an operation, even slight in characacter, we all are familiar. The treatment of this condition has also been set forth—a method of treatment based upon symptomatic indications, and upon the general principle of stimulating the depressed nervous centers. This is very well as far as it goes, but, passing over the use of remedies, as belonging especially to the department of materia medica, it is questionable whether in a depressed state of the system, such as we find in shock, the best ends are served by stimulating the already overtaxed nervous system, for a stimulant merely whips up the lagging energies, and is always followed by reaction.

In this, as in every other disturbance of organic equilibrium, the scientific treatment is based upon an understanding of the pathology of the condition. The dynamic remedy must be administered, for it acts upon the interior parts of the microcosm, and probably assists them in establishing an equilibrium with the external forces which make for health. But if the system craves food, if the brain needs nourishment, drugs will not supply the deficiency; we must have regard to the physiological requirements, and supplement our use of drugs by the application of the laws which govern waste and repair.

Without dwelling at length upon the pathology of surgical shock, it is sufficient for our present purpose to refer to the more recent, and it seems to me the most generally applicable explanation of the phenomena. I refer to the demonstrations that have shown shock to be accompanied, if not caused by, a general and considerable diminution in the blood pressure, especially that which supplies the heart and the brain. This diminution of blood pressure may not always be owing to the actual loss of blood, but may, and probably is, frequently due to general vaso-motor paralysis, caused by the violence done to the nervous system at the time of the operation, which as Goltz has shown, is not in its effects confined to the arteries, but may result in a loss of tonicity of the walls of the veins as well. Such a condition would cause the blood to accumulate

in the abdominal vessels and thus deprive the heart and large vessels in other parts of the body of their necessary quantity of blood. Experimentally this has been proven to take place after severe surface burns, and after any extensive surgical operation vaso-motor paralysis is followed by stagnation of blood in the abdominal arteries and veins. The principal phenomena of shock correspond to this pathology, diminution of blood pressure and internal plethora. We will be wrong, however, to regard these as more than symptoms, or as the cause of the depression, they are the effect; the cause, there is reason to believe, is reflex inhibition of the nervous centres, produced by irritation, and the exhaustion is in direct ratio to the suddenness with which the irritation is induced. Many cases are on record, and we have all doubtless witnessed profound shock following a sudden, but not necessarily severe, blow received in the region of some nerve center. Such instances illustrate in a mild way the effect of the sudden irritation attendant upon a surgical operation. Relaxation, paralysis, a general exhaustion and fatigue follow the violence done the nervous system, a necessary consequence of any surgical operation, and if to this general exhaustion we add the withdrawal of the mechanical stimulus to the hydraulics of the circulation (stagnation of blood in the abdominal vessels), we have a comprehensive picture of shock.

For our present inquiry, our concern is principally with the circulation, and consequently with the state of the abdominal vessels. That these are not found congested at the time of the operation does not militate against the belief that they subsequently become so, and assist in producing the surface anæmia and low blood pressure that are characteristic of shock. As a matter of fact, I have often remarked upon the enormous distention of the abdominal veins at the conclusion of a prolonged and severe laparotomy; those in the broad ligament, and especially those forming the plexus behind the bladder, stand out like soft cords, and frequently give considerable trouble before they are secured. Certain it is that the heart and the large vessels are not sufficiently distended with blood, while the abdominal vessels are more than full. The clear indication is, therefore, for us to unload the congested channels, and thus by returning the blood to the heart, restore its tone and action.

In common with other hollow organs, the action of the heart and vessels depends upon the degree with which they are filled with fluid, and it does not seem to make much difference what the character of the fluid is. The question is simply one of hydraulics, and has to do with a pumping organ.

Now can we, granting that little blood has been lost during the operation, and nowadays operations are almost bloodless, can we, I say, quickly, for the thing must be done with all haste, determine the blood into the general circulation, out of the abdominal vessels? We at present know of no means to do this, more than bandaging the limbs and elevating the legs, expedients that all are familiar with. In this connection we note that heart tonics will not act. They are of no avail as long as the heart continues empty. We must, therefore, put something into the heart for it to act upon, and then give our remedies to strengthen its muscle.

The idea and principle of transfusion is one of the oldest in surgery, but the knowledge that it is fluid the vascular system requires, and not necessarily blood, is a recent discovery, for we now find that we can produce the same effects upon the circulation by introducing normal salt solution, as were produced by the transfusion of blood. We have the further advantage that the salt solution is always at hand, and can be readily procured in any quantity. We here meet the question, are there no injurious and permanent effects from this over-distention upon the heart and blood vessels? for we place more fluid in the circulation than is normal. Does not this forced dilatation (it will be remembered that we are now speaking of shock not necessarily connected with hemorrhage) defeat the very object for which it is employed, and result in paralysis? There would be danger of this were it not for the compensating action of the kidneys. These glands become very active under the effect of transfusion, and undoubtedly serve to regulate the blood pressure; otherwise introducing such enormous quantities of extra fluid into the circulation would act in the manner suggested. It is not at all unusual, even *during* the operation of transfusion, to have the kidneys begin to act, and such an effect serves as an indication for me to cease, for a time, the injection of the fluid. I recall an abdominal hysterectomy in which the shock was very profound, and in which I transfused in both arms, at different times during twenty-four hours, twelve litres of salt solution. The case recovered, but the activity of the kidneys was out of all proportion to the quantity of the fluid injected, and this diuresis continued for several days. In this case the action was of longer duration than usual, for it generally ceases when the blood pressure becomes equalized. The value and importance of this post-operative treatment cannot be overestimated, and no surgeon's armamentarium is complete without the appliances to perform the operation at the necessary moment. It will save life when life seems extinct; when breathing has all but ceased and the heart can scarcely be heard to pulsate. In its proper place, if anything can restore organic equilibrium and arrest the processes that tend to dissolution, transfusion will accomplish the work.

The legitimacy of the transfusion of a normal salt solution in conditions of shock being established by constantly increasing clinical experience, and the scientific basis upon which it rests being clearly demonstrated, the practical application of the treatment will properly engage our attention at this time.

Two principal methods of introducing saline solution into the circulation are at present adopted. Direct introduction into an open vein, and transfusion into the cellular tissue, the indirect

method. A discussion of these here will suffice, and will avoid repetition when we speak of the use of transfusion in the treatment of septicæmia.

The method that has served us well we naturally favor, and for this reason I prefer the direct transfusion. I have used it more than the indirect method, and believe that I have obtained from it all that I could accomplish from the cellular transfusion, with the additional advantage of rapid action, a matter of no small value in cases in which every minute tells for or against the patient. On the other hand, the cellular transfusion can be more quickly applied, and requires less expert manipulation than the transfusion into a vein, or artery, but I think this facility of manipulation is more than offset by the rapidity with which the fluid is taken into the circulation in the direct method. The effect of this is felt immediately in an improved pulse and in general signs of life; whereas a considerable time must elapse before the circulation responds to the saline fluid introduced into the cellular tissue.

In point of gravity I do not think that one operation possesses much, if any, advantage over the other. Under antiseptic precautions a vein can be opened without risk, and the old fear of admitting air into the circulation need not be considered, for numerous accidents show that the presence of air in small quantities in vessels is not injurious. I have several times, when transfusing, been aware that air entered the vein with the solution, but in no instance have any deleterious effects followed the accident.

For the purpose of veinous transfusion I use the Aveling syringe. A funnel, tube and canula are preferred by many surgeons, and they certainly answer the requirements of transfusion, but a little experience with the use of the syringe enables the operator to feel the tension of the circulation and the resistance to the injected fluid, and furnishes him with a valuable indication of how far to push the transfusion, and when to renew it after its discontinuance.

In my Private Hospital I have always kept ready for use the decinormal solution, and it is, when wanted, only necessary to heat in the flasks in which it is prepared and sterilized. And in giving directions for an operation in a private house, my nurses understand that the solution shall form a necessary part of the preparation for the operation.

I usually make the transfusion in the median basilic vein, and open the one that is the most convenient to reach, for anatomically I do not think it makes much difference whether the solution is introduced in the right or the left arm, the veins being rapidly filled through either entrance. If the case is an urgent one, and the shock is profound, I begin with the temperature of the solution at 110 and so maintain it until reaction is well established. My general rule for the rapidity of transfusing is, to count ten while emptying each bulb of the syringe, but experience will regulate this, as well as the quantity of solution to be used. Certain it is, that no preconceived notion of what the circulating system can bear will serve as a trustworthy guide; we can only rely upon the reaction, and upon the tension of the arterial channels.

One of the first results observed to follow transfusion is a general quieting of the nervous and physical systems, for I have frequently observed in shock the great restlessness that is usually considered to belong to the loss of blood. The patient falls into a peaceful sleep, even though she may awaken with a return of the oppression and former restlessness. The pulse becomes perceptible and bodily heat returns.

It is not at all unusual during the process of transfusion, especially near its termination, for the patient to suffer a severe nervous chill, amounting sometimes almost to a convulsion. Of course, under such conditions the transfusion must, at least for the time, be discontinued, and the usual restoratives to induce reaction resorted to. The chill is of short duration, and the transfusion may be continued if thought advisable.

As before suggested, the introduction of saline fluid into the circulation in case of shock, rests entirely upon mechanical principles and obeys in its action the laws of hydraulics. The nervous exhaustion is not by this procedure relieved, save possibly that the mechanical irritation of the heart and vessels gives the nervous system its needed rest. I therefore think that transfusion should be accompanied with the intelligent use of heart stimulants, those acting directly upon the heart muscle, and those whose special action is expended upon the nerves supplying the heart, and the vascular canals. I refer to the administration of Digitalis and Strychnine. Without these salt I would hesitate to undertake the treatment of a case of shock; with them and the salt-solution, I feel all reasonable confidence that the treatment will be successful, and would assume the responsibility of apparently hopeless cases. It was formerly my habit to administer these drugs in alternation, but I am rather inclined to give a large dose of Digitalis and wait the effect; meanwhile Strychnine is exhibited. It is a matter of astonishment to observe the large doses of Strychnine that can be borne under these conditions without producing its physiological effects. But I regard the drug as invaluable in the treatment of shock, and administer it hypodermically until the pulse loses its wiry quality.

No rule can be laid down to regulate the quantity of the saline solution to be used at a single operation, nor how often the operation is to be repeated. Both of these questions must be decided by the condition of the patient. My own rule is to continue the transfusion until the pulse has regained its volume and quality, and until the reaction has become established. If in a few hours the pulse again becomes weak and thready I repeat the injection under the same rules. I have continued to transfuse at intervals for three days and saved my patient.

I have spoken of the compensating action of the kidneys when large quantities of fluid are thrown into the circulation. This, I think, is our safeguard, and if watched will guide us in regulating the quantity of solution to be used in a given case. The transfusion can be pushed with-

out fear if the kidneys are acting freely, for they will regulate the blood pressure, but if they do not carry off the excess of fluid the over-distention induced by the injected fluid will paralyze the vessels and the heart, or rather increase the primary vaso-motor paralysis.

In abdominal work as a prophylactic against shock, I frequently fill the abdominal cavity with saline solution, even though I close the wound, and do not make drainage. The fluid is very quickly absorbed, for experiments have shown that the peritoneum is capable of taking up from three to ten times the weight of the body in an hour. I think there is good reason to believe that the congestion of the pelvic vessels, which we have found to form a part of the pathology of shock, may by this means be lessened, if not in mild cases prevented.

With the same object in view, I inject two liters of saline solution into the rectum, before the patient has recovered from the anæsthetic, and while in the Trendelenburgh position. The rectum will absorb the salt solution, even when thus it would not absorb a nutritive enema, and by introducing into the circulation, before the effect of the operation has had time to develop diminished blood pressure, enough fluid to fill the vessels, anæmia of the heart is prevented, and the circulation is maintained.

We now come to speak of saline transfusion in septicæmia, and septic conditions generally. The field is a comparatively untrodden one, and the use of this therapeutic agent rests largely upon clinical experience, for as yet we have no completely satisfactory explanation of the rationale of its action.

There is no evidence to support the belief that true septicæmia has been arrested or cured by the use of saline transfusion or, for that matter, by any other method of treatment. By true septicæmia I refer to that form of poisoning that develops slowly, and is attended by symptoms of the most profound depression, mental, nervous and physical. In these cases the patient is anæmic, there being a great increase in the number of white corpuscles. There is icterus, probably due to the destruction of the red blood corpuscles. The pulse is weak and rapid, the heart early gives evidence of failure, the brain is cloudy, there is great prostration, the condition being one of "euphoria." Such cases pursue their course with relentless certainty to their termination, unaffected by any treatment that we may adopt. They are lethal from the beginning, and while, of course, we do not cease in our efforts to combat the disease, we are conscious that the system is in the grasp of a force more powerful than anything we have to meet it with. Our dynamic, far-reaching remedies I think are powerless in these cases, where the only hope resides in rapid action, and either in counteracting the poison, or in holding the system until it shall have expended or exhausted itself.

Now it is possible that in transfusion we have a means of treatment that, if applied early enough, will go far toward meeting the requirements in these cases. In any case of poisoning, if we can keep the organs essential to life active, that is, the heart, the kidneys and the lungs, until the poison has expended itself, we have done much, and have given an opportunity for the dynamic remedy to exert its force. Septic poison, as we have seen, affects the blood, and either through the inability of the altered blood to nourish the heart, or its specific action upon the nervous system, heart failure results. By injecting an excess of fluid into the circulation, the heart is stimulated, for the vessels are filled, and they, as well as the central organ, are given something to act against. Furthermore, the kidneys are excited to activity by the pressure of fluid through their circulating canals, and thus the elimination of any chemical poison is favored, and possibly that of bacterial origin also. This suggestion is made as a working hypothesis only and as something upon which to base what would seem to be a rational adjunct to the treatment of septicæmia.

As I have said above, I know of no well authenticated instance of a case of true septicæmia having been successfully treated with saline transfusions; the cases reported seem mostly to belong to obstetrical practice, and are to be classed among the milder forms of septic intoxication, produced by the ptomaines which develop from putrefaction. These cases are amenable to treatment, for the cause being removed the poison ceases to generate. But even though thus far the treatment of the severer forms of septicæmia with saline transfusion has not been attended with success, the failures may be due to the method of its application, especially the time at which it is used and the quantity introduced into the circulation, and not to the principle upon which the treatment is based.

My own experience in treating septicæmia with saline transfusions is confined to three cases, all of which finally yielded to the disease. It will be understood that I here refer to the severer forms of septicæmia, those to which I have elsewhere referred to as true septicæmia. But while in these three cases the intoxication continued to a fatal termination, the immediate result of the transfusion was so striking, and the temporary arrest of functional exhaustion so marked, that I feel sure that in transfusion we have a most valuable means of treating septicæmia; a means, which if we resort to early enough, will assist in reducing the mortality of this fearful desease. Just here lies, I believe, the gist of the matter. We do not recognize the presence of septicæmia in its first stages, unless the history has been one to place us on our guard, there being a mental unwillingnsss to acknowledge that septic poisoning follows one of our operations, and sometimes we will not be convinced until the system is well poisoned, and then it is too late.

After an operation I look upon the pulse as the most valuable indication of the progress toward convalescence. A *fluctuating* pulse, noticed immediately after the operation or developing within twenty-four hours, excites my suspicions and leads me to believe that there is some exhausting force operating upon the system other than the operation itself. If the temper-

ature does not correspond to the pulse-beat and the patient expresses herself as perfectly comfortable (this mental condition I regard as a most valuable early indication), I believe we should without delay institute our treatment for septicæmia. The case may prove a mild one and recover in such manner as to cause us to question whether we should have treated it upon these lines. On the other hand, the case may be one of true septicæmia, and then we have gained time, and prevented by just so much the invasion of the system by the poison.

If saline transfusion is to do anything toward the control and cure of septicæmia, it must be used in the early stages of the disease, and before general intoxication has developed. It must be used before the heart begins to fail, and before the blood shows evidences of degeneration; before the brain gives signs of dullness, and the body that great desire for rest which indicates dangerous exhaustion. I would therefore advocate, upon the first indication after an operation of failing organic function, or even before such evidences develop, if there has been reason to suspect septic infection, the use of saline transfusion, not as the sole remedy to be depended upon, but as one we can trust will aid us in our battle for life.

So far I have spoken only of the use of saline transfusion in cases of true, or probably bacterial, septicæmia. Incidentally I have referred to sapræmia, or the milder form of septicæmia, and its treatment by this method. The distinction is probably more clinical than pathological, for it is probable that the different forms run into each other, and are very much the same in kind, if not in degree, and the fact that sapræmia, chiefly thus far confined to septic metritis, is successfully treated with saline transfusion, should strengthen us in our advocacy of this treatment for the severe forms of septic intoxication.

One other point which is not strictly a part of the present inquiry, but which I trust I may be pardoned for introducing, is the use of saline transfusion in the operating room, and during the operation in cases of extreme exhaustion and weakness of the heart when the operation cannot be delayed. I have on several occasions begun my operation while an assistant transfused, the patient's condition being such as to render a major operation without such a direct stimulant to the circulation impossible and certainly fatal. I have thus been able to operate with success upon cases that otherwise I would not have felt myself justified in attempting. In such cases, though I have heretofore always used the direct method, the indirect transfusion into the cellular tissue (the point of election is under the mammary gland) would probably give equally good results, and from its simplicity of manipulation complicate the major operation less than opening a vein would do.

A Spanish physician (Mascaro) has trained a blind man to use the bicycle, following a seeing leader, and proposes to train others to use tandems.—*Gaz. Med. De Liége*, July 15.

THE PROBABLE FUTURE OF THERAPEUTICS.

By James Robie Wood, M. D., LL. D, New York.

PART VIII.

Identica, Similia, Contraria.
By These Signs We will Conquer.

Sulphur (Continued).

WHAT are known as solutions of sulphur are generally little more than emulsions or suspensions in oils, etc. Separated by evaporation or chemical action, the sulphur is precipitated from such solutions without change other than a fine subdivision of its particles. Absolutely soluble sulphur, when taken from its menstruum, deposits in beautiful crystals. This does not apply to *amorphous* sulphur, which, apart from its solutions, remains formless.

True, sulphur solutions will doubtless prove invaluable additions to the coming materia medica. Future disciples of Æsculapius will offer the incense of respect or devotion to this time-honored medicine, which, from most remote antiquity, has been reverently handed down the centuries enshrined in its exalted name—Θεῖον.

Of its wide and great antiseptic power and its absolute necessity to living tissues, there can be no question. By their presence in the various combinations in the animal economy we are impressed with the vast importance of sulphur and phosphorus to our very existence. There have been but few if any remedial agents, moral, mental or physical, however great in their beneficence to mankind, that have not been decried and belittled by some of us. What else can be expected while the vanity of human intellect so often treats the Almighty author and giver of life Himself as a myth, and His stupendous works and plans as accidents or sequences, independent of Supreme control.

It is safe to affirm that sulphur will stand among the most valued therapeutic potencies of the coming medical era.

Its broad range of usefulness can be developed only by earnest studies and by careful provings upon diseased and healthy tissues both in man and the lower animals.

The new lights that future science will be able to throw upon investigations may give much valuable data; but the material help which may continue to come from chemistry and the microscope will be but a trifle compared with the higher illumination to be used for broad and deep research by future medical minds. Already, as the growing of a grain of mustard seed, we see developing in that noble embodiment of mental greatness, the German mind, the spirit of a deeper and more sincere inquiry into causes of causes far beyond the bare material facts ascertained by the lens and the test tube.

In the last paper many direct and indirect solutions of sulphur were mentioned, and promise was made that their various values would be given in this present paper; but a few only can now be

noticed, as there has been insufficient time to prove the accuracy of cures recorded. Theoretical recomendations are, however, justifiable, as many applications were made upon the general theories of its germicidal powers and the probable insufficiency of sulphur in the tissues under certain diseased conditions. Besides, the frequent success of the applications, which were made upon these theories, sustained them, unless that therapeutic bug-bear, *suggestion*, influenced the results.

As more than six hundred hydro-carbons, as well as other substances, might be enumerated, with which sulphur could be combined, it would hardly be wise to call attention to more than a very few of the prominent ones.

It is well to note the apparent fact that those hydro-carbons which contain much oxygen seem to combine least readily with the sulphur.

The solutions in petroleum and its numerous derivati ves ought to be of value in a long list of maladiies, especially those wherein ichthyol has been fo und useful.

Solutons in crude petroleum, kerosene, parrafin oil, etc., may be applied in rheumatic conditions. In the naphtha series and phenol for pulmonary and enteric disturbances. In the petroleum jellies and cerates for some affections of the derma.t But by far the most extensively useful prepar ation is the *glycerin*-sulphur solution, which properly applied certainly offers a true solution for many pathological difficulties.

Besides those given in the former papers, from the note books of other physicians, treated by this glycerin-sulphur solution, the writer will here offer a few cases from his own practice, deferring a record of others for the final review of the whole subject in order to verify results by further trials.

Case 1. The cause of relief in this case has an element of doubt on account of the possibility that the thorough massage used while applying the sulphur solution may have been a potent factor in producing the result.

Miss ———, 23 years of age. This patient was suffering from acute rheumatism, of which she had experienced repeated attacks since girlhood. Her heart had become seriously involved during former attacks.

Since the first appearance of her menstruation it had returned eight times only during the intervening seven years. Previous physicians had made various futile attempts with electricity and other means to restore the function, as she suffered by reason of its suppression. After a general treatment of several days the glycerin-sulphur solution was ordered. Upon learning that the breast of one side, the right, was much smaller than the other, she was directed to apply the solution vigorously to the smaller one. The relief which slowly followed caused the patient to persevere. After the first week's treatment the application was made once or twice a week only. Within a few months her menstruation appeared and continued quite regular for a time, when it again ceased, she having meanwhile dropped the treatment. The diminished right breast had at this time become quite as large as the left. Upon a renewal of the application the monthly flow was re-established, and with several short interruptions has continued regular. Her general health has improved, and the difficulty of exercising on account of the cardiac lesions has markedly abated. Little if any other medicines were given in this case that had not been previously used without effect. The thorough massage resorted to in applying the solution forbids emphatic assertion of claims, but sulphur has certainly restored menstruation after prolonged suppression, as is evidenced by the testimony of the older physicians. In suppressed menstruation without rheumatic complications sulphur did not have the same effect.

Case 2 was a young man with large and painful ulcers of the interior mouth and of the tongue, which had resisted all treatment, both local and general, for many months. Correction of gastric faults had no beneficial effect. The glycerin-sulphur solution was applied to each ulcer several times daily, and under this treatment the ulcer healed rapidly, and when they reappeared an immediate application promptly relieved the condition.

Case 3. A young school teacher, exceedingly delicate and with very feeble heart action. Diphtheria had developed with great severity; the membrane covered the tonsils, pharynx and filled the posterior nares. The bacteriological examation declared its undoubted character. Frequent applications of the glycerin-sulphur seemed to be beneficial, but as other treatment was continued honors were necessarily divided when the whole membrane separated simultaneously from tonsils, pharynx and nares, and came away intact. This patient had been taking internally the poison of the Cuban tarantula at the same time, but as the alcoholic preparation only could be procured very little effect could be expected from it. Notwithstanding the very feeble heart action the patient recovered perfectly.

Case 4. Child five years old. Diphtheria, which had been progressing for three days before treatment. The membrane extended throughout his nose, which was also obstructed by large adenoids; it also covered the tonsils, pharynx and passed downward into the larynx. Intubation relieved the breathing. Being unable to reach all parts with the sulphur solution, and as its value was not manifest, while the membrane quickly fell from the tonsils the immense diptheritic mass surrounding the adenoid could not be reached. Antitoxin was injected at short intervals in full doses with some benefit, but a sharp attack of nephritis soon ended his life. The glycerin solution could have been made very thin by the addition of alcohol, and possibly frequent spraying with this thinned solution might have been of benefit. Other cases with evidence of diphtheritic disease seemed to disappear under the sulphur solution. As the writer in former years considered no case diptheritic unless, besides the membrane, glandular enlargement had begun on one or both sides, so all cases relieved not having this symptom, except when deter-

mined by the microscope, were rejected. These opposite shades of cases are recorded together to emphasize both the possibility and doubt of the value of sulphur solutions in diphtheria. Reasons for the probability of its very great value in this class of cases will be given in a later paper as soon as sufficient material has been collected to warrant it. Theoretically it was suggested for whooping cough, and as seen by Dr. Scott's report in the last paper, it seemed to have a decided effect in arresting this annoying affection in a number of cases. In scarlet fever it has been used, both as an external ointment and internally, apparently with most salutary effect.

The sphere of action of the amorphous-sulphur solutions seems to differ from the crystalline. Judging by the limited opportunities for experiment, it appeared to be preferable in diphtheria.

The first case recorded above was treated by the amorphous, while for the second the crystalline was used, and the antitoxin simultaneously.

It will take great care and close observation to determine the individual values of the various forms of the sulphur solutions.

RHEUMATISM: RIGHT AND WRONG TREATMENT—VALUE OF THE FASTING CURE IN RHEUMATISM, FEVERS AND OTHER DISEASES.

By Charles E. Page, M.D., Boston, Mass.

It was nearly twenty years ago that the writer's attention was first called to the value of the fasting cure for rheumatism. The *Canada Medical Record* contained a report of forty-seven cases of acute rheumatism cured in from four to ten days by fasting and profuse water drinking alone. The contributer was Casey A. Wood, A. M., M.D., of the medical department of Bishop's College at Montreal, Canada. The patients treated were in part hospital patients and part from Dr. Wood's private practice, some rich, some poor. Patients were allowed lemonade if they wished, and inflamed joints were bathed with cold water from time to time. In a private letter Dr. Wood assured the present writer some years later that subsequent experience had been altogether satisfactory and that he was convinced that rheumatism presented "a phase of indigestion." In none of his cases was any medicine administered. The cases reported "included men and women of different ages, temperaments, occupations and social positions." "From the quick and almost invariably good results to be obtained by simple abstinence from food," says Dr. Wood, "I am inclined to believe that rheumatism is, after all, only a phase of indigestion, and that by giving complete and continued rest to all the viscera concerned in the process of digestion the disease is attacked *in ipso radice*."

Dr. Wood concluded his report by saying that "this treatment, obviating as it does almost entirely the dangers of cardiac complications, will be found to realize all that has been claimed for it—a simple, reliable remedy for a disease that has long baffled the physician's skill, and the frequency with which rheumatism occurs will give every one a chance of trying its efficacy." My own experience has fully borne out all that Dr. Wood claimed for the fasting cure in rheumatism, fasts of six to ten and twelve days having been frequent in my practice, the effect being to prevent high temperature, reduce the pain to the minimum and in every way to promote the patients' comfort.

In two articles in the *New York Medical Record*, "Should Therapeutic Fasting be Termed Starving? Its employment in Typhoid Fever and Other Diseases," Feb. 24, 1894. and "Hygienic *vs.* Drug Treatment for Typhoid Fever," April 28, 1894, the present writer gave his experience in a large number of cases and attempted to show the folly of the almost universal practice of forced feeding in sickness, and he is happy to say that from all parts of the country came appreciative letters from men standing high in the profession thanking him for such reformatory work. Dr. Simon Baruch, of the New York Juvenile Assylum and Manhattan General Hospital, so well known for his active propagation of the Brand bath treatment for typhoid fever, remarked that the articles referred to "ought to be sent broadcast throughout the profession as missionary tracts" for the enlightenment of physicians.

At this very moment there lies dead in this town a man cut off in his prime, his death universally mourned; a tough, hardy man who should have had a score more of years in which to serve his State and city; the beginning of his illness having been described as "a cold," developing into rheumatism, with threatened pneumonia, and the daily bulletins assured us that he was "able to take nourishment every two hours!" And this when the patient had become paralyzed and unconscious. The term commonly applied, "starvation cure," is altogether misleading; in fact, the patient is both starved and poisoned by eating when all hope of possible digestion and assimilation is prohibited, as is true in all acute attacks. What greater source of blood-poisoning can be imagined than the absorption into the circulation of matters from decaying food substances in the intestinal tract?

Concerning the prolonged and horrible sickness of President Garfield, who was "fed for pus" every two or three hours for weeks, fed *ad nauseum*, and when his stomach absolutely revolted at the abuse, and food could not be retained, he was "fed" per rectum with "nutritive enemata," one of the most useful physicians in England, as well as one of the noblest men who ever lived, the late Prof. John Kirk, of Edinburgh, said at the time: "The most flagrant illustration of the abandonment of common sense and the following of absurdity is now being given in the case of the President of the United States of America. His feeding is perfectly monstrous, and shows that at least in high quarters ignorance and noise have all but supreme sway for the time. As it was in the case of Lord Beaconsfield, it is in this case—How much can he be got to swallow? It does not seem to be imagined that di-

gestion, and, still more, assimilation, are more important than swallowing! But surely men need not be fools! They are not shut up by fate so that they shall think only transparent nonsense. Only just a little of the most humble light, and surely you will see that assimilation—that is, the changing of food into healthy flesh and bone and nerve—is the thing to be desired, rather than the mere swallowing of the least adaptable substances without regard to such assimilation.

"It does not require the wisdom of a sage to see that feeding, on the one hand, so as to load the system with unassimilable substances, and draining off pus, on the other hand, is the sure way to finish a patient's career."

In fact fever patients are fed for high temperature—and about every acute sickness is attended with pyrexia—and then antipyretic poisons are supposed to be useful to down the temperature; they are fed for pain, and opiates are employed to deaden the senses, never having the slightest tendency to remove the cause of pain; they are fed for ptomaine poisoning and delirium, and more opiates are "indicated"; they are fed finally for intestinal hemorrhage and perforation, and so on to the end of the chapter, till finally the patient dies or proves himself too tough to kill! If he does die the doctor is generally believed to have done "all that medical skill could do." If he live, "the dear doctor managed to pull him through!"

Beyond question physicians are as a class the most honorable, faithful, sympathetic and well-intentioned of all professional men; that they always mean to do their best to cure their patients cannot be for one moment a matter of doubt; but it is evident to the mind of bed-rock students of this question that we have in some respects been mistaught in medical schools and that there is a crying need of reform in the matter of treatment.

Dr. George L. Peabody, a comparatively recent convert to the bath treatment for typhoid fever, in a paper on typhoid fever read before the Practitioners' Society of New York, Dec. 6, 1889, said: "The results in the treatment of typhoid fever continue to be so bad in general in this country as to constitute a chronic opprobrium to the art of medicine here. We do not seem to be capable of approaching the low rate of mortality which has rewarded the efforts of the medical profession in many cities of Europe." Dr. Peabody here makes reference to the Brand bath method, which has reduced the mortality in typhoid fever from 15 to 20 per cent. under the expectant plan, to 3 or 4 per cent., and in one series of cases treated by Brand, Vogl and Jurgensen, there were but twelve deaths in 1,223 cases, or only about 1 per cent. "And not one of these twelve deaths occurred in any case that came under treatment before the fifth day of the attack!"

"Those who still adhere to the expectant plan of treatment," continues Dr. Peabody, "are still in the large majority here. The expectant plan seems in a general way to make us quite content with our bad results, and to lead us to expect the patient to die if he becomes gravely ill."

But while the laity in general have full confidence in the family doctor's skill, there is a growing number who are by no means "content with our bad results." These are growing more and more restive, indeed rebellious. Witness the rise of the "Mental Scientists," faith cures and the like, whose "treatment," though without doubt less fatal than the kind herein criticised, and to which their method is a protest, is nevertheless (except in a class of ailments which require simply the stimulus of **hope** and courage) atrocious in that it does not embrace *helps* to Nature in her extremity. Without doubt, no treatment is better than bad treatment.

The object of this paper is to protest against the prevailing bad treatment of not only rheumatism, but of acute sicknesses in general, particularly in the matter of forced feeding, and not to describe the correct treatment at length; but we will say that the chief points in the treatment of acute rheumatism consist in complete abstinence from all food save fresh, soft water, which should be taken profusely, say from one to three quarts in the course of every twenty-four hours, according to age and size of the patient, and in proper cold-packing of inflamed joints, or in alternate hot and cold bathing of the joints, to the fullest soothing degree demanded.

The writer takes pleasure in referring to the position of Dr. Elmer Lee of New York, whose article on "How to Cure Rheumatism" (*Journal of the American Medical Association*, July 25, 1896) should be in the hands of every physician. Like the writer, Dr. Lee finds no place for drugs in the treatment of rheumatism; though it is agreed that it is the part of wisdom to administer a placebo as a means of interesting the patient and to satisfy friends and attendants that "something is being done!"

The case of the late Col. Fellows, of New York, was similar to thousands that have either terminated fatally or barely escaped death through the inability of medical men to comprehend the magnificent lesson of the Tanner fast and of the hundreds of fasts of professional or insane fasters, and of the experiments made on dogs and other animals, in which the subjects simply lose flesh slowly to regain it rapidly on resumption of feeding—that so long as a patient is supplied with fresh air and water in abundance life will inevitably continue until about all of the flesh on the body is consumed. And this, too, without risk or suffering. Indeed, we have the history of many cases in which life has continued and health been restored in spite of deprivation from both food and drink for ten to twenty days; but in these cases there is real distress for want of fluids. The writer recently had the opportunity of observing, at the Massachusetts General Hospital, the convalescence of a stowaway who got shut in the hold of a freight steamer at Liverpool, and in a close, stuffy atmosphere existed for nine days before discovered and rescued. His suffering was caused solely by the foul air and deprivation from water.

In the case of Col. Fellows, above cited, we have that of an habitually over-fed man, the stom-

ach irritated to an extraordinary degree by food and drink till Nature called a halt in the most emphatic language, as the account tells us: "Very seriously sick from an attack of acute gastritis, which prostrated him on Monday and which puzzles the physicians." Really, it puzzles the present writer to account for any medical man being puzzled at this sort of thing. The patient was worse on Tuesday and grew worse daily from continued forced feeding, naturally enough. On Friday the report was that it was "impossible for him to recover. He is being kept alive by stimulants (sic) and nutritive enemata, as he cannot swallow food!" Through mistaken efforts to nutrify such patients the stomach is badgered continually and healing prohibited. Fresh water is the only food demanded. It cools, soothes and aids in the healing of the inflamed mucous membrane and supplies the very element required to maintain the fluidity of the blood and enable it to perform all its proper functions to perfection; while, on the other hand, every touch of alcohol, or "stimulants" in any form, to the inflamed stomach, increases the inflammation, besides being a true poison to an already over-poisoned system. Some degree of putrescence of the nutritive material injected into the lower bowel, a process altogether unnatural, of course, adds still further to the patient's toxic state.

154 Tremont street.

DISEASES OF THE STOMACH INDICATED BY THE PRESENCE AND ABSENCE OF HYDROCHLORIC ACID.

By G. V. MEARS, M.D., FOND DU LAC, WIS.

WHILE the general examination of the gastric secretion is one of the innovations in the practice of medicine, yet Golding Bird in 1842, in a case of cancer, estimated the amount of hydrochloric acid. His methods are faultless even now, and his deductions as to the secretion of hydrochloric acid in case of cancer are not discarded to-day. Leube was, I believe, the first to call attention to the possibility of using the stomach pump for diagnostic purposes. Up to 1875 the stiff, unyielding tubes were used. At this time Ewald, in Ferrich's clinic, readily passed a soft tube into the stomach of a patient who had taken poison and was unconscious. The soft black rubber tubes are the ideal instrument, but are passed with some difficulty. For general use the stiffer, smooth rubber tubes are best. They are not stiff enough to injure the stomach, and can be passed much more rapidly, obviating much straining and vomiting, which is of great importance when we are obtaining samples of the gastric secretion.

The removal of a test meal should be done as rapidly and with as little irritation as possible. When there is much irritability the pharynx may be sprayed with a solution of cocaine. Much straining and vomiting may defeat our object by causing regurgitation of bile and intestinal contents.

After the tube is passed the stomach may be emptied by aspiration or by the Ewald and Boas method of compression. In aspirating you attach a stomach pump, or what is still simpler, an ordinary Politzer bag after it has been compressed, when its expansion will aspirate the stomach contents. In case the tube becomes closed and the fluid does not flow, a little air may be forced into the stomach to dislodge any substance blocking the tube. At times a known amount of warm water may be injected to facilitate the aspiration.

The Ewald method of compression consists in having the patient strain, as in severe coughing, pressure being made at the same time over the stomach. This method should not be employed when there is ulcer of the stomach, or when the patient has weak blood vessels or aneurism.

Einhorn has devised a silver bucket which is attached to a string and swallowed. The opening of the bucket should be closed with gelatin to keep out mucus, and should remain in the stomach sufficiently long to dissolve the gelatin, when it is removed by tension on the string. It has not been as acceptable as the stomach pump, and many reject it altogether.

A series of experiments by Ewald and Boas to determine the normal course of the secretion of hydrochloric acid corroborates the results reached by Friedman and Gemielin in 1826, *viz.*, that there is no gastric secretion during the fasting stage. Beaumont noted the same fact in his observation of St. Martin. Some observers have found small amounts of gastric secretion during the fasting stage, but these observations are not all reliable, from the fact that the mere passing of a tube may cause a slight secretion.

Leo and Kinnicut have found hydrochloric acid present without exception in the stomachs of fasting infants, but they consider it a residue from the previous digestive process.

Hydrochloric acid is secreted as soon as food enters the stomach, but for some time it combines with other elements and does not appear as free acid until the process is well advanced. The amount secreted depends, in a measure, on the amount of food taken.

Ewald divides the act of digestion for his test breakfast, which consists of a dry roll or slice of bread, and two-thirds pint of water or tea, into three stages. After fifteen minutes the free acid present is lactic and continues so up to forty minutes.

A stage follows in which hydrochloric acid is found with traces of lactic acid, and after one hour hydrochloric acid is always found. The clinical and practical importance of Ewald's divisions of the steps of acidity is that any deviation from this enables us to recognize pathological conditions.

The test dinner of Leube and Riegel tests the power of digestion to a greater degree than the simpler test breakfast. It consists of a German mid-day meal, about 13 ounces of soup, 2 ounces of meat and 1⅔ ounces of bread. The stages of digestion are the same as in the breakfast, except that the period in which the lactic acid is found extends over four or five hours, the fluids are ab-

sorbed early, and by the time the process of digestion has progressed sufficiently for our purpose, there is little left but a mushy substance that is difficult to remove. Then, too, the hydrochloric acid is combined in so many forms as to necessitate complicated methods in order to be accurate as to its amount.

Ewald's breakfast, according to Konig's analysis, contains 7 per cent. of nitrogen, 5 per cent. of fat, 4 per cent. of sugar and 52.2 per cent. of nitrogenous extractive substances, to which 1 per cent. of ash must be added. It therefore gives a fair test of the stomach digestion and for diagnostic purposes is much more agreeable to remove. Ewald has never found it necessary to use the more complete meal, as he has obtained the same results with the breakfast as with the dinner, even in cancer of the stomach.

We decide whether the acidity of the gastric contents depends on acid salts or free acid by the use of tropæolin, which changes to a dark brown if free acid and to a straw color if acid salts are present. A more delicate test, and the only one with which I am familiar, is Congo red, which in the presence of acids changes to sky-blue. It is the most delicate test and responds to .02 per thousand. Congo paper is the most convenient form for general use. If there are acid salts present with little free acid, the change to the blue color will not be so marked as when free acid only is present.

To test total acidity a Mohr's burette is filled with a deci-normal solution of caustic soda; 5 to 10 cc. of the filtered contents are poured into a small glass vessel, and one or two drops of phenophthalein are added. The latter is the most delicate indicator of alkalinity. The soda solution is allowed to drop slowly into the gastric filtrate, till the red color that indicates alkalinity remains. If it require 50 cc. of the soda solution to neutralize 10c cc. of the gastrate filtrate it is 50 per cent. acidity. The normal, according to Ewald, ranges from 40 to 60 per cent. If we are sure the acidity depends on hydrochloric acid, and not on the salts of other acids, we may express the value as hydrochloric acid. One cubic centimeter deci-normal solution is equivalent to .003645 hydro-chloric acid. When 10 cc. of the stomach contents are used, multiply .003645 by ten, and again by the number of cubic centimeters taken from a burette till the contents give the percentage of hydrochloric acid of the stomach contents, the normal percentage ranging from .14 to .24.

There are but two tests that respond to hydrochloric acid only, concerning which there can be no mistake. Gunzberg's phloroglucin-vanillin and Boas' resorcin. Congo red, methyl violet, benzo-purpurin and several others are not reliable, and it is not necessary to more than mention them here.

Gunzberg's test consists of phloroglucin, 2 grams; vanillin, 1 gram; alcohol, 30 grams; two or three drops of the gastric fluid unfiltered is poured into a clean porcelain dish, add the same amount of the reagent added; it is then gently heated over a flame, care being taken not to burn the organic matter or you will spoil the test. After the evaporation a delicate rose tint appears at the edge of the liquid, rapidly spreading over the whole surface, and deepening into a cherry-red, if normal hydrochloric acid is present. If much hydrochloric acid is present crystals of a similar color are deposited. If there is a small amount of hydrochloric acid in the stomach contents some condensation of the gastric fluid will be necessary and the red color may be only momentary.

Gunzberg ascertained that the gastric fluid could be diluted up to ten times and continue to respond to the color test. Inability to obtain the color with smaller dilutions indicates sub-acidity, and obtaining it with more, hyper-acidity. The intensity of the color points to the relative amount of hydrochloric acid.

This test is uniform. The color is always bright red when acid is present in normal amounts, rose-red when the acid is less than normal, but never brownish-yellow or brownish-red.

Boas discovered the resorcin test, which consists of resublimed resorcin, grams 5; sugar, grams 3; dilute alcohol, grams 100. Three to five drops of stomach contents are placed in a porcelain dish and equal amount of reagent added. When gently heated a purple-red color appears at the edge of the evaporated fluid. It is not quite so delicate as the Gunzberg test, but is easily produced and kept.

These tests are qualitative only, but are sufficient for all diagnostic purposes. In watery so tions they leave little to be desired as regards delicacy, but in the presence of peptone and other common products of digestion they fail in delicacy. A .004 per cent. of hydrochloric acid may be detected by Gunzberg's test in watery solution; in the presence of peptones as much as .15 per cent. of hydrochloric acid may not respond to the test.

In 1842 Golding Bird wrote that during the more irritative stage of cancer free hydrochloric is present in the vomit in considerable quantities, but gradually diminishes in proportion to the patient's loss of strength, and that the organic acids increase in proportion as the hydrochloric acid diminishes. This fact was forgotten for many years.

Prof. Kussmaul was the first to methodically investigate this subject, and the opinion expressed by R. Vonder Velder, that cancer of the pylorus accompanied by dilatation of the stomach leads to the suppression of hydrochloric acid, was accepted by him, and soon indiscriminately applied to all cases of cancer. Subsequent investigation has, however, shown that cancer, in itself, in no way lessens the secretion of hydrochloric acid. When the growth is limited in area and there is no accompanying catarrh or atrophy of the mucous membrane, the secretion of the hydrochloric acid may remain ample until it disappears with the approach of death. If, on the other hand, the cancer is near the pylorus, and there is an accompanying catarrh and dilatation, there will be, in proportion to the severity of the catarrh, a gradual diminution of the secretion of hydrochloric acid until there is none, or too small

a quantity to be detected. Even if there are some conditions of cancer of the stomach in which hydrochloric acid is present in sufficient quantity, in the great majority of cases of this disease the secretion rapidly diminishes and soon disappears.

There are, however, other conditions in which the secretion of hydrochloric acid is greatly diminished. These include atrophy, amyloid degeneration, mucous catarrh, and corrosions, in which large portions of the membrane are destroyed, and certain neuroses, in which there are disturbances of the gastric glands.

Acute indigestion may cause a temporary reduction of the hydrochloric secretion. In cachetic conditions the secretion is reduced; also in fevers and all acute infectious diseases. Riegel's saying, "that hyper-acidity is a constant phenomenon in ulcer" can now be regarded as positive, inasmuch as the results of 382 analyses on all of forty-two cases by us during one year showed the hyper-acidity to be equally constant."

Gerhardt in twenty-four patients with ulcer found that in seventeen cases the color tests showed hyper-acidity, while in seven they did not. Others have found cases in which the percentage of hyrocholoric acid ran as low as 18 per cent., which is the normal limit.

We can not question these later observations, and Ewald says Riegel's proposition should read: "In cases of ulcer the gastric juice always contains hydrochloric acid, and usually an excess of it."

There are conditions aside from diseases of the stomach in which hyper-acidity occurs.

Occasionally it is found in persons who have no appreciable disease of the stomach, and without any neurosis. In melancholia Von Vorden has frequently observed it, and Jolly claims there is an increased secretion in hysteria. Jaworski has found it frequently among the Jews of Galicia, who are especially predisposed to nervous disturbances. It may also occur as a reflex symptom of gall-stones and renal disease.

The examination of the gastric digestion taken by itself counts for no more than testing urine without seeing the patient, or making a diagnosis from a lock of hair. One examination gives but little light. The tests must be frequent, and then in connection with other symptoms they throw a flood of light to guide us in the diagnosis and treatment of cases.

Our friend, Dr. H. M. Hitchcock, is making additions to his delightfully situated sanitarium at Crest View, Greenwich, Conn. This is an ideal home to rest in for those who are tired and not very sick, but need the attention of an excellent physician and good home care.

Any one who has ever picked up with a bare hand a piece of intensely cold iron knows that the touch burns almost as badly as if the metal were red hot. Indeed, the action of great heat and that of extreme cold are so familiar that a Hungarian chemist has turned the latter to account to prepare meats for food. He subjects the meats to 60° of frost and then seals it up in airtight cans. The result is that the meat, which is practically "cooked by cold," will keep any time, and can be eaten with very little further preparation.

GENERAL REMARKS ON THE SUBJECT OF WATER SUPPLY.*

By H. Reineking, M. D., Sheboygan, Wis.,
Chairman of the Section.

THE problem of pure water supply has for many years been the subject of much study and experimentation. As a result of such study it can be said that at the present day the principles in accordance with which such supply should be governed are well understood, although many practical difficulties still present themselves. Chemical and bacteriological research has developed methods of detecting various impurities and determining their character. Methods and means for obtaining water from pure sources, or of purifying it on a large scale in localities where such sources do not exist, have been invented and perfected. The means of purifying a contaminated supply on a smaller scale are at hand in every household. Notwithstanding all these advances, it is a humiliating and deplorable fact that thousands upon thousands of human beings annually succumb to the ravages of water-borne, and therefore preventable diseases. It follows that, either through ignorance or indifference, the hygienic laws of water supply are in many localities flagrantly disregarded by both public authorities and individuals.

What do we, as physicians and sanitarians, mean by pure water? To answer to the requirements of the sanitarian, water should be free from all gross physical impurities, such as are perceptible to the unaided senses; if intended for ordinary drinking purposes it should not contain an excess of inorganic or mineral salts; but, above all, there should not be present in it any disease-producing germs or their spores, nor any organic matter which of itself might prove harmful or serve as a culture medium for such germs if introduced.

The essential requirements and tests of a pure water supply being given, the question of how to procure it naturally follows, and further, what is to be done in localities where a pure source of sufficient capacity is not available? That almost all surface water, including that of streams and other large bodies, is more or less contaminated, has been sufficiently demonstrated. Wherever animal and vegetable life and decay are present, the conditions for such contamination are given. But by far the most important source of pollution is the emptying of sewage and other waste material into streams and other bodies of water in the vicinity of cities, and its improper disposal in the vicinity of wells and other sources of water supply. The theory that matter thus deposited is rapidly rendered innocuous through precipitation, chemical decomposition and death of its micro-organisms, has not been substantiated by recent investigation, and should in no case be relied upon. Only when by repeated chemical and biological examination the water of a stream or lake

*Read before the Wisconsin State Medical Society.

has been found to answer to the above mentioned requirements, should its use as a source of public or private water supply be permitted, and if so used it should continue the object of frequent and regular investigation.

The head waters of many streams, especially such as have their source in large springs and lakes situated in high altitudes or in sparsely inhabited districts, have in many cases been found satisfactory sources of municipal water supply, but should not be so accepted until the aforementioned tests have been repeatedly made. Ordinary wells are subject to many dangers of contamination. Too much care cannot be given to their location in relation to outhouses, cesspools, ponds of stagnant water and other sources of filth. Their construction, the material used in their curbing, the proper banking up around them on the surface, are all matters of great importance. Even with all these precautions the water of most wells is subject to dangers due to the variable amount of rainfall and moisture. During heavy rains the well is apt to become flooded and to receive impurities from the surrounding soil, while during periods of extreme drought the water seems especially liable to develop disease-producing impurities.

It follows that in thickly populated districts the use of well water must always be fraught with danger, and that wherever located the well should be the object of intelligent supervision. Wells supplied from large springs and so-called tube or pipe wells may be considered comparatively safe from contamination, though not entirely so. In many rural districts where conditions of the soil, such as the presence of malarial miasms or the presence in the water of an excessive amount of inorganic salts, forbids the use of all well water, it becomes necessary to collect into tanks rain water for domestic and other purposes. Only the strictest attention to cleanliness of roofs, tanks and all apparatus used can prevent such systems from becoming filthy, and water so procured should be thoroughly filtered or boiled before being considered fit for drinking purposes. The advantages of obtaining a water supply from deep underground sources will be discussed in another paper.

All water for domestic and dairy purposes, taken from sources exposed to any kind of contamination, should be subjected to a process of purification before being used, and fortunately it has been shown that such purification can be effectively accomplished on a large or small scale by a properly conducted system of sand filtration. Where such a system is not at hand and the water supply is known to be impure, or even suspected of being so, the purification should be effected by boiling. Keeping the water at a temperature of over 200° Fahr. for half an hour will destroy with certainty any germs ordinarily found in water.

In regard to the various forms of domestic or house filters it must be said that while they remove from water most of its gross impurities, they cannot be considered safe or perfect for the removal of bacterial contamination. They should therefore not be relied upon when the water is suspected of containing pathogenic germs, and when used need frequent cleansing and sterilization. It is claimed that polished rebaked porcelain furnishes the best materials for such filters.

As water-borne diseases of the most pronounced type we may mention cholera, yellow fever, typhus and typhoid fever and dysentery. To what extent the germs of tuberculosis, diphtheria, pneumonia, the erruptive fevers and other infectious diseases are propagated and disseminated through the medium of water remains to be shown by future study. The bacillus tuberculosis has been shown to retain its vitality in water at ordinary temperature for many days, and the bacillus of typhoid fever and anthrax have been shown to be capable of rapid multiplication in the same, and judging by what we know of bacteria in general there appears to be no good reason why any infectious disease could not be thus spread.

Preventive medicine can boast of no greater triumphs than those wrought in recent years in connection with the control of cholera and yellow fever epidemics ; and the greatest share of these achievements may be justly claimed to have been due to the improvement and protection of the water supply in localities where these diseases had gained a foothold or threatened to do so. The same measures, if thoroughly and universally carried out, will just as effectually control and stamp out typhoid fever as cholera and yellow fever.

In many large cities simultaneously with improvements in their water supply, the number of typhoid fever cases, has diminished so strikingly that there can be no doubt of the correctness of the statement just made.

The great difficulty with typhoid fever is its widespread prevalence and its consequent frequent importation into localities where it would never originate *de novo*. Another drawback to its extermination is the fact that its occurrence does not usually attract an adequate amount of attention.

The widespread prevalence of typhoid fever in small towns, villages and rural districts is a matter that should receive the serious attention of physicians and boards of health. In these localities sanitary measures must be carried out more through individual efforts. Knowledge in regard to the supreme importance of proper drainage and pure water should be more generally disseminated through the schools by means of printed pamphlets issued by boards of health and through the personal instruction of the family physician. The people should be thoroughly imbued with the idea that with the use of pure water only they will be proof against typhoid fever.

As soon as a case of typhoid fever occurs the source of water supply should be investigated, and in the majority of cases it will be found to be not only chemically and biologically but even grossly impure. Very dry seasons are especially apt to cause deterioration of well water and the appearance of typhoid. The boiling for one-half hour of all water used for domestic or dairy purposes is the only, and at the same time an ab-

solutely efficient, means of safety under such circumstances.

The time allotted for this paper allows me merely to mention the important bearing of drainage on the question of water supply; the importance of a strict supervision of the source of ice supplied for domestic or dairy purposes, or to the relation of the character of water used in dairies and cheese factories to the purity of their products.

Many of these questions will be discussed in other papers. I hope that my remarks may be the means of calling forth a thorough and full discussion of this all-important subject.

A SUIT to recover $40,000 damages for alleged libe brought by Joseph A. MacKeown, an optician, against Dr. Frank Van Fleet, who, in an address before the County Medical Society, had spoken of him by implication as a quack, was tried in the United States Circuit Court before Judge Wallace and a jury recently.

The address complained of was made in the course of a debate over the admission to the columns of the *Medical Directory* of an advertisement of MacKeown's, and was reported in the newspapers. In it Dr. Van Fleet said: "I have been told of the case of a man, a druggist, who died of Bright's disease. He told me he had seen this advertisement in our publication, and thinking it had our endorsement, had his eyes tested for glasses without relief. I hold that the advertisement was the means of hastening his death at least. A man who says he can do all things this man says he can, can do more than any physician, and he is a quack. The medical journals are overrun with these meretricious advertisements, I am sorry to say, but I want our own to be free from them. It seems to me that when a person not a physician advertises to cure headache, nervousness, sore eyes, neuralgia and other things by putting on glasses, then he violates the law as a quack. Such advertisements should be withdrawn from the *Medical Directory*. If there is no legal right to withdraw them, then there is a moral right. The whole country is teeming with such quackery, and, what is worst of all, when such advertisements appear in a medical journal, and especially in our own publication, it appears to have our endorsement."

Dr. Van Fleet at the trial testified in his own behalf that he did not know that reporters were present when he addressed the County Medical Society. He said that he spoke of MacKeown as he did for the reason that the latter advertised to do what he had no right to do, not being a licensed practitioner.

Judge Wallace directed a verdict for the defendant, who is to be congratulated.

The County Society some months ago voted to support Dr. Van Fleet in his defense, and we presume will meet the costs of action.

BY direction of Congress the Department of Agriculture is investigating the character and extent of the adulteration of foods and drugs. It is generally believed that adulteration sophistication, imitation and misbranding of foods, drugs and liquors exist to a very great extent. Many of the States have enacted laws to prevent such practices, and it is very desirable to know how these laws have been enforced and with what results.

The general public should be largely interested in this matter, as it affects health, morals and legimimate trade, and it is proper to ask co operation in securing accurate information on the subject. Information on this subject should be sent direct to the Chemical Division of the Department of Agriculture, and a large amount of valuable data will materially assist in properly carrying out the work. No matter can be of more importance to the people of the United States than that of the extent and character of the adulteration of foods and drugs sold them. The department simply desires a concise statement of facts, which can be fully substantiated if necessary, and not theories.

DISINFECTION BY FORMALDEHYDE VAPOR.*

If one may trust the reports of careful observers in Europe and America, and many judge from a limited personal experience unchecked by laboratory investigations, the problem of disinfection of apartments and their contents, during and after their occupancy by patients having contagious diseases, has at length been solved. Dr. Hans Aronson (*Zeitschrift fur Hygiene und Infections Krankheiten*, vol. xxv., June, 1897) summarizes investigations to date upon the antiseptic properties of formaldehyd, and recounts new experiments tending to confirm his original researches. Various methods of disinfection by utilizing the penetrating powers of formaldehyde gas upon a large scale have been proposed. Aronson finds most of them objectionable; including in this category all attempts at vaporization by means of heat from commercial solutions of formaldehyde in water, or from solutions in methylated alcohol, and attempts to develop the gas directly by heat applied to wood alcohol in lamps of various devices.

Of all methods he prefers that of Schering, which utilizes the solid polymerized formaldehyde (paraformaldehyde or paraform) in the shape of pastils weighing 1 gramme each. These being exposed to heat in lamps of proper construction, the heated gases of combustion convert the paraformaldehyde again, into formaldehyde gas, which becomes thoroughly mixed with them, and with them is distributed into all portions of the place to be disinfected; the necessary moisture being likewise supplied by the combustion. In a room of about 100 cubic meters (3,500 cubic feet) content (25 feet x 13 feet x 10¾ feet), he placed test objects at different levels. The microbes used were staphylococcus, streptococcus, bacillus pyocyaneus, typhoid, diphtheria, and tubercle bacilli, and anthrax spores. It was found that one lamp containing 100 pastils (one pastil per cubic meter—35 cubic feet) was sufficient to destroy all germs but anthrax spores. For this 200 pastils sufficed.

It made no difference where the test objects were placed or through how many thicknesses of material the vapor had to penetrate. Even the scrapings of dust were sterile. The necessary number of pastils were placed in the apparatus, the lamp lighted, and the room closed for twenty-four hours. A strong odor of formaldehyde perceived on entering was quickly dissipated by opening the windows.

In cases of diphtheria and scarlet fever we have had the small lamp with a single pastil used continuously, while likewise vaporizing a mixture of turpentine and eucalyptol, or the latter alone, for the sake of the odor as well as for the undoubted therapeutic usefulness of the latter mixture.

KLEBS-LOEFFLER BACILLUS.

According to the London correspondent of *Medical Progress*, "the most humiliating come down for the bacteriologist is seen in the attitude he is forced to sustain relative to the diagnostic value of the Klebs Loeffler bacillus. This bacillus is now regarded as not at all diagnostic of diphtheria, and its presence is given no particular significance in this regard by any well-informed man in London."

GLASS prepared by some process which renders it malleable is used with great success in filling teeth. Glass is also used for church bells; of course, it is toughened, so that there is no danger of cracking. The tone is more musical, soft and sonorous than obtained from any metallic combination.

PROF. BROUARDEL, in a recent lecture, related the following case: A man had a pharyngeal abscess, so deeply seated that his medical attendant was afraid to meddle with it. One night a burglar broke into the house, and on the sick man's calling for help tried to throttle him. The abscess burst, deluging the burglar with pus, and causing him to beat a rapid retreat. His intended victim experienced instant relief, and made a rapid recovery.

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*Philadelphia Polyclinic, Sept. 11, 1897.

The Medical Times

A MONTHLY JOURNAL

OF

MEDICINE, SURGERY, AND COLLATERAL SCIENCES.

EDITORS

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THE secret of genius is to suffer no fiction to exist for us; to realize all that we know; in the high refinement of modern life, in arts, in sciences, in books, in man, to exact good faith, reality and a purpose; and first, last, midst, and without end, to honor every truth by use.

—REPRESENTATIVE MEN.

THE MEDICAL TIMES will celebrate its silver anniversary in a special issue of its December number. The columns will be filled with the choicest material at hand, and many articles will be written expressly for this occasion, including one from that celebrated scientist, Prof. Elmer Gates, of Washington.

Editorially there will be given a full review of the aims and objects of the journal from the beginning, and the status of liberal medicine as it exists to-day.

While an extra edition of this number will be issued, those desiring copies should apply at once, in order to be sure of being supplied, as the demand will be large and should be known in advance.

PUBLIC CHARITIES FOR THE SICK.

IT is a question worthy of thoughtful consideration among the philanthropists, who, year by year make such ample provisions for the relief of the sick poor in the endowment of hospitals, which now include separately almost every speciality in the medical profession, whether this liberal appropriation of wealth might not to a certain extent be directed into other channels promising better results. The medical thought of the age is turned more and more to the prevention of disease, to an intelligent understanding of its causes, and the effort to prevent its development by attention to physical surroundings. Would not a little thoughtful inquiry suggest to the philanthropist that however necessary hospitals are they may be multiplied beyond their real need, and that a portion of the money given with such lavish generosity might better be expended in making the homes of the poor healthy and comfortable, even if in doing so they realized in pecuniary returns but a small rate of interest. Money thus expended by preventing disease, by encouraging orderly habits of life, would do much to close the gates against the tide of pauperism and disease which now fills our great public hospitals and overflow into private institutions. Many of these institutions are organized to be supported by subscription, and yet the moment subscriptions fail they are almost sure to apply to the city government for means to carry on their work If the money were in all cases rightly applied, or, in other words, if the recipient of this charity, drawn from the pockets of the taxpayers, was absolutely in need of the help thus rendered, there might be no valid objection. But this is by no means always the case. It is notorious that there are many dispensaries where excellent medical advice, including medicine, may be obtained for the asking, or by the payment of a nickel or a dime. And there are hosts of persons who can well afford to pay for medical advice who have so little honor and so little shame as to willingly avail themselves of privileges intended only for those absolutely without means. This cry of discriminating charity is beginning to be looked upon with more or less suspicion, and public sentiment demands less cant and more and better guarded work. Give us, they say, and say justly, fewer dispensaries and confine them to the legitimate work of caring for the really poor.

With the commencement of 1898 a new organization under the charter of Greater New York takes the place of the old commission in caring for the sick poor of the new city. This department will be under the control of a *single* commissioner, who will be the supreme head of hospitals, asylums and almshouses, and be answerable to the city for their good government and for the hundreds of thousands of dollars required for their support. This will doubtless lead to such an arrangement of all these institutions that each one will have at its head, either as superintendent or deputy, a physician of marked intelligence, thoroughly conversant with hospital work and of undoubted executive ability; a man who will inspire the respect of the house-staff and retain the confidence of the medical board. Of course, the entire hospital management in the care of the sick and the dis-

cipline of the hospital should be under the control of the medical board, answerable to the Commissioner, with as little interference from him as possible to insure the efficiency and harmonious working of all the details of the hospital.

A NEW TEST FOR TYPHOID FEVER.

THE tests for typhoid fever are not always reliable, and many a disease gets the name of typhoid when it is in reality something else, and of some other fever when it is really typhoid. The "rose spots" to which the books point as indications of typhoid are a good test when they exist, but they are absent in at least 30 per cent. of typhoid fever. Other "characteristic" symptoms are not always present, and when they are present they may mean malaria or something not typhoid, so that often the physician cannot say positively before the tenth day whether a case is really typhoid. Not long since a test, discovered by Robert Pfeiffer, Koch's assistant, was announced. It was called the Widal system, and was very far from satisfactory, leaving the matter in about as much doubt as before.

By this test a drop of blood or serum is mixed with a pure typhoid culture. When put under the microscope, if there has been typhoid in the system within the past five years the bacilli would be seen under the lens to gather in groups, but if there had been no typhoid the bacilli would move about with freedom. This, of course, was unsatisfactory, and required great delicacy of manipulation to afford much aid in diagnosis.

It is a very excellent rule in the health department that each bacteriologist shall take up under the direction of the chief of the laboratory, Dr. Biggs, each year some new subject of research. In this way long and continued observation is centered upon one line of investigation, and every year excellent results are obtained.

Last year Dr. Hiss of the Health Department, recognizing the fact that the typhoid bacillus must be located in the intestines, and recognizing also the fact that another microbe, the colon bacillus, which is perfectly harmless, is found there also, and that even with a microscope the resemblance between them is so great that it is very difficult to differentiate between them, he attempted to determine the presence of typhoid bacillus by another method. After repeated experiments and minute study, he devised a culture in which typhoid germs will multiply and the other will not, which worked so satisfactorily that the Health Board adopted it officially.

The culture is composed of gelatine, agar (which is a Japanese isinglass much in favor with bacteriologists), glucose (to make the mixture ferment), salt and Liebig's food. Typhoid germs grow in it, and the colon bacillus does not. In actual practice a minute quantity of the semi-fluid matter sent for examination is taken off on a "loop" and is placed in a little vial containing this "culture." Eighteen hours is sufficient time for the bacilli to grow, and a statement of results will reach the doctor inside of thirty-six hours after he has sent a specimen to the laboratory. It is the plan of the Board of Health to have all the doctors of New York City avail themselves of this test free of charge. At the end of eighteen hours a small portion of the culture is spread on a glass plate which has a glass cover. In a short time, to a practiced eye, the appearance of this plate will give the information sought—that is, it shows if there has been any growth. If there is growth, it is a case of typhoid; if not, probably no typhoid exists.

The very great difficulty which has heretofore existed in certain obscure cases of differentiating between typhoid and malaria, if the recent tests are correct, will be in a measure solved by the above test in typhoid and the recognition of plasmodia in malaria.

THE epidemic of yellow fever, owing probably to favorable weather which for the past few days has prevailed along the Gulf States, is rapidly subsiding. The near approach of frost precludes any anxiety as to the further spread of the disease. Thus far the total number of cases has been about 1,700, with a fatality of only 7.5 per cent. Dr. Sanarelli claims to have discovered not only the bacillus of yellow fever, but also a curative serum, a package of which has been sent to the Surgeon-General of the Marine Department, but too late to demonstrate its value this season. It is an interesting fact that a peculiarity of the yellow fever is, that it only appears on the Atlantic side of the continent. It is liable to visit our Atlantic cities any year, but heretofore it has been unknown in San Francisco or any of the towns on the Pacific coast. Even on the Isthmus of Panama its ravages are confined to the Atlantic end of the isthmus. The cause of the exemption of the Pacific coast from the ravages of this terrible disease is as yet unknown. Yellow fever is not, as has often been asserted, confined to the white race. Negroes are not immune, although much less subject to the disease, particularly those of pure African blood. Those with an Anglo-Saxon strain in them are quite as liable to the disease as the white.

THE recent death of a distinguished dentist of this city twenty-four hours after an operation for appendicitis has led to a report among surgeons, who claim that appendicitis is purely a surgical disease and should be promptly treated by the knife, that in this case the life of the patient was sacrificed to a delay in the operation, and that if it had been performed earlier recovery would have been almost certain. The facts of the case are simply these: the condition of the patient indicated the existence of pus; the temperature and pulse were normal and the heart's action strong and natural. The operation was apparently entirely successful. There was no appearance of shock, no increase of temperature, no change of the pulse, and nothing indicating deranged heart action. The patient was closely watched either by nurse or physician, and never for a moment left alone. Twenty-four hours after the operation after a good sleep of several hours he awoke with a slight cough and a little expectoration of mucus, partially raised his head, fell back upon the pillow, and in a few moments was dead. Both the physician and surgeon were making their morning call at the time he awoke. The cause of death was undoubtedly pulmonary embolism, arising from a clot which had formed in the heart, and had no connection whatever with the appendicitis or the operation.

THE preliminary plans of the New York Zoological Park, to be located in south Bronx Park, one of the new acquisitions of Greater New York, have been completed, and work upon them will soon be commenced. These plans include those for the lion house, the monkey house, the elephant house, bird house, winter house for birds, reptile house, tropical ruminants house, main restaurant and administration buildings. Of secondary structures there will be: a flying cage, eagles and vultures aviary, buffalo house, deer barns, wolf and fox dens, bear dens, sea-lions' pond, pheasants' aviary, mountain sheep shelter and duck aviaries. Particular attention has been given in connection with this park to as complete a system of sewerage and water supply as science and money can create. The different houses and the outer grounds will be kept in almost as an aseptic condition as the wards of a well-regulated hospital.

NEW YORK is not always foremost in introtroducing new improvements, but now that it is taking rank as the second city in the world it is adopting active measures to make it worthy of its position. The air is at present a little blue with fault-finding at turned-up streets, but the prospect at no distant day of being able to sleep quietly at night and think during the day unmolested by the roar of street traffic, give us strength to bear the present as a slight evil, as we look forward to the speedy completion of improvements in the quiet, well-lighted streets, in the rapid transit to every part of the city. Thank God the days of Belgian pavements are over, and even the invalid will be able to ride all over the city upon smooth pavements with wheels shod with rubber, enjoying the life and beauty of the city, with no wear and tear to their nerves.

DR. THOMAS W. EVANS, an American dentist residing in Paris for nearly half a century, and who has had his fingers professionally in the mouths of nearly all of the crowned heads of Europe, has had unusual facilities, not only through his profession, but from his intimacy with the great financial kings of the world, to amass an immense fortune. That fortune, estimated at upward of $30,000,000, it is said, he proposes to devote to charitable and educational institutions in this country. With a special eye to his own profession, it is said he intends to build and endow a dental college in his native city of Philadelphia practically free to deserving students. The institution in all its departments will be as complete as it can possibly be made by science backed by an unlimited supply of money.

THE latest health statistics from Bombay show that the bubonic plague is again active, having crept unmolested from hamlet to hamlet, until a wide area is affected. The newspapers assert that the withdrawal of the medical officers for service with the troops on the frontier will entail consequences more disastrous than anything happening in the future. The recent articles of Mr. Julian Hawthorne, who visited India in the employ of the *Cosmopolitan Magazine*, and whose articles have been published in that periodical, give a sickening picture, drawn from actual observation, of that plague-stricken and famine-cursed land. As yet there is no stay to the famine, and the news of the rekindling of the plague will be read with a feeling of sadness throughout the world.

ONE of the most malignant epidemics of typhoid fever of modern times is now ravaging Mardstone, England, where, out of a population of 22,000, 1,500 have been stricken with the fever. The opportunity has not been neglected of putting to a practical test some of the more re-

cent ideas in reference to *typhoid vaccine*, and experiments are being made with the vaccine on a large scale under the direction of the pathological labaratory of the State Army School at Netley by two of its most distinguished professors. The method has been brought to such a state of perfection that they obtain without difficulty Widal's reaction from the blood of the vaccinated, which they consider a proof that the person is protected by the injection.

OUR St. Petersburg exchanges report the prevalence in some of the valleys and along the sluggish streams of Asiatic Russia of a malaria so malignant in its character and so rapid in its course as to amount almost to a pestilence. Deaths are numbered by the thousands, and the Russian garrison at Merv has been transferred to the Caspian Sea to escape annihilation. The attacks are somewhat similar to what has been seen in times past in peculiar locations along the low lands and bayous of the great rivers of the West, where the algid attack was so severe as to end in death.

THE attention of the Health Board should be called to the *fact* that the large water pipes which are being laid in Fifth avenue have been used by the workmen as a urinal, if not worse, during the protracted time during which this work has been going on, thus defiling the water supply to the level of a common sewer.

The writer has seen this done from the window of his sanctum, and can substantiate the truth of the statement from personal knowledge. The pipes should be thoroughly flushed before being used by the public for drinking purposes.

THE Surgeon-General of the Navy in his annual report recommends that to meet the new conditions of modern warfare, an ambulance ship be put in service to accompany each squadron when in actual service. The report also includes the recommendation to establish a hospital corps for the Navy. These recommendations will be acted upon at an early date.

THE latest cure for consumption, called Oxytuberculine, has been devised by Dr. Joseph O. Hirschfelder, of San Francisco, and the lymph is prepared by injecting the tuberculine into veal. The treatment seems to be indorsed by Cooper Medical College after careful examination of the patients treated. It is said to solve the problem which Koch failed in doing.

THE proposed national confederation of examining boards, so far as we can learn, is not making much headway. Dr. W. W. Potter, of this State, has made a strong address on "Reciprocity in Medical Licensure; A Plea for Interstate Indorsement," and we quite agree with the Albany *Medical Annals* when it says:

"The essential elements of his address should be of special interest to every practitioner and student of medicine in the United States. They point out clearly the lines upon which a great advance can be made in the standards of the profession. This advancement is not confined to the boundaries of a few individual States, but to the limits of the entire country, and is to be accomplished by an interstate exchange of licenses.

"First: He denies that any disagreement exists betwen college faculties and the State examining boards.

"Second: He trusts that the time is not far off when we may have a national registration bureau, where every legally qualified reputable physician may be recorded, and when all physicians whose names appear upon this register, and whose licenses are properly indorsed by the registrar, may pass from one State to another in the practice of their profession.

"Third: There is but one basis upon which reciprocity between the several States can be established. This implies equalization of the preliminary requirements of medical students; a uniform period of collegiate training, with uniform methods, and absolute similarity in the methods of conducting State examinations and granting licenses.

"Fourth: It only remains for those States now demanding separate examinations for license to practice to bring their preliminary requirements to a common level by statutory enactments, and then for their several examining boards to agree upon uniformity of methods, when the question of reciprocity is solved.

"Considerable time and work will be required before these improvements can be realized. When they are, however, the practitioner and the student will be happier, and justice will feel easier.

"The student can feel that his field of future work is limited only by the boundaries of his country, and not by those of any one State, and the practitioner can know that, if he is compelled to move from one State to another, he will not be required to spend considerable time and money to meet the requirements of another limited territory.

"If reciprocity, with a national Board of Regis-

try, were established, aside from the advancement of the standards of the profession that it would assure, it would increase the popularity of State examinations among practitioners and students, who would not then consider them a restriction upon their life work, as many do at present."

ACCORDING to Dr. Elmer Lee, opium is not the medical treatment for appendicitis, contrary to the opinion of some surgical teachers. Nor should stimulation be used, though advocated by certain surgeons. Where appropriate medical treatment is employed, not more than one case in twenty-five would call for operation. The so-called recurrent appendicitis is but a further manifestation of a former condition, which, through inappropriate and incomplete medical treatment, remains. Medical management ought to meet the need in twenty-four out of twenty-five cases. Dr. Pepper states that in not more than one time in twenty is operation justifiable, with proper medical treatment. These candid statements place appendicitis in a new light. Surgery has claimed too much and gone too far; a reaction will again place the physician in charge of these cases, together with other bowel disorders which, after all, are in consequence of defective nutrition, and not from grape-seeds and cherry-stones.

MR. ERNEST HART, of the *British Medical Journal*, whose criticism of medical affairs in this country on his recent visit created considerable ill feeling among the profession, has recently been obliged to submit to an amputation of the leg, owing to necrosis of the bones of the foot. The patient is making a rapid and complete convalescence.

THE Long Island Railroad has constructed and put in commission a hospital car under the charge of Dr. J. Frank Valentine, the surgeon-in-chief of the company, and also the president of the New York State Society of Railroad Surgeons. The car is fully equipped with all the necessary modern surgical apparatus and can be quickly moved to any point on the road.

DR. NEWTON C. BATES has been appointed Surgeon-General and Chief of the Bureau of Medicine and Surgery of the Navy to succeed Surgeon-General Tryon, who only lived a few months after his appointment.

Every evil to which we do not subscribe is a benefactor. We gain the strength of the temptations we resist.

BIBLIOGRAPHICAL.

A GENERAL CRITICISM OF HERMAN MYNTER'S BOOK ON APPENDICITIS AND ITS SURGICAL TREATMENT.

In Which Exception Is Taken as to Mortality Under the Most Advanced Medical Treatment Not Given in This Work but in This Criticism. Exception is Also Taken as to the Per Cent. Under the Regular Operative Procedure.

BY M. O. TERRY, UTICA, N. Y.

The latest work which has come to my notice on the so-called direful disease, appendicitis, is that by Herman Mynter, M.D. (Copenhagen) Professor of Operative and Clinical Surgery in Niagara University, etc., etc.

"Appendicitis and Its Surgical Treatment, with a Report of Seventy-five Operated Cases," is its title. I wish to note in the first instance the medical treatment as given in the work, purported to be the most modern. The mortality as stated by this surgeon, "Under medical treatment then is a SURE mortality of *probably** 16 per cent."

"Under surgical treatment there may be a small mortality, *probably* less than 4 per cent. in early operations."

It would be difficult, indeed, in this article for me to name the various conditions under which the mortality would be less if the cases had been received at this stage or that stage, and if the cases were this form or that form of appendicitis, as recorded in this work. Of the seventy-five cases which he has reported, a mortality of twenty-one cases, or 28 per cent. is shown. I must confess that most of the cases reported seemed from the condition found to demand the operative procedure. My criticism in the report in this book is that the cases are much more severe and deep seated than the *average* as they come to the surgeon, and that the operative treatment will be indicated as in my cases in about one case in twenty-five, only.

As a contradiction of the mortality given, in reference to the medical treatment of appendicitis, I wish to place my experience of fifty-one cases of appendicitis with no deaths, forty-nine treated medically, there being only two surgical operations.

When I note the so called modern or latest medical treatment for appendicitis I do not wonder at the "probable" mortality recorded, for it is unphilosophical, is not in line with the causes producing this condition, and the remedies are in most cases misapplied.

Perhaps the fairest estimate of the average mortality incident to the operative treatment of appendicitis is that recorded in the "American Text Book of Surgery," which gives one death out of seven or eight cases.

I feel very much as Lawson Tait, that great laparotomist, whom I heard state before the British Medical Convention in Leeds, England, after he had heard Dr. Cutter, of New York, show by a fair and just estimate a mortality of 8 per cent. in cases of fibroids treated by the use of electricity. After complimenting that gentlemen upon his carefully prepared and honest report, he said: "Until you gentlemen (I have forgotten the large number of cases he gave; indicating his operative skill), can cure or can beat a record of two and sixty-seven one hundredths per cent. mortality, I shall continue to operate as against electricity." So I feel in regard to the *oil treatment* in appendicitis. Until my records are beaten or it can be shown that relief is safer with the knife and more speedy in all cases, and more permanent, I shall only occasionally use that valuable adjunct to the true surgeon's kit in cases when in my observation it seems the only thing to do.

To criticise is not a difficult thing to do, and I therefore feel inclined to explain why and how I have succeeded

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* Italics are mine.

wherein others have failed in the medical or oil treatment.

Let us begin at the appendix itself. Whether it was intended by its position and by its unusually large solitary glands to act as a lubricating can for the ilio-cæcal valves or whether it is a rudimentary affair, I am unable to determine, and we will leave it for the theorists to decide.

I am quite a believer, however, in the superior knowledge and wisdom of the Creator over man, and think had this appendix not been for some purpose it would not now be handed down from generation to generation a menace to humanity, as well as a constantly inviting victim for a willing surgeon's knife. In line with my belief, that the healthy mechanism of mankind is subject to certain regulated principles, physiological in character, namely, the regularity of the bowels and of all the functions incident to this complex structure, my aim in the treatment of appendicitis has been for the last few years, and the present time, to correct these neglected principles by a course of treatment in harmony with their re establishment.

Instead of giving an opiate, as many medical men suggest—wanting to do something and yet not knowing just what to do—which arrests the peristaltic action, thus aggravating an already existing stasis of the circulation in the cæcum, owing to impaction there, I give a good cathartic of some sort; the best I believe to be a tablespoonful of castor oil with two of sweet oil, followed by a glass of hot water, this to be repeated in three or six hours, according to the urgency of the case.

If the patient is unable to retain this, 5 grains of calomel and 20 grains of bicarbonate of soda in a glass of hot water are to be given every three hours until a thorough movement has been produced; or this with the previous prescription, alternately every three hours.

In connection with the cathartic treatment colon enemas are used every three or six hours. In the first instance glycerine, 4 ounces, is injected, followed by bicarbonate of soda and water, using one dram to a quart of water. In subsequent enemas 6 to 8 ounces of sweet oil are injected *after* the colon enema of water, the patient during these enemas having the hips well raised. Fomentations of flaxseed poultices are kept applied to the abdomen hot, and hot sweet oil is poured over the poultices or applied to the abdomen before using the poultices.

The skin and abdominal muscles will readily relax under the oil, fomentations and heat, when they would not under fomentation by themselves, dry heat, or iced applications as are sometimes made. This is true of the *internal administration* of oil and its relaxing effects reduces inflammation and prevents *gangrene* or *sloughing of appendix*. Internally, drop doses of the tincture of aconite and belladonna, given every one, two, or three hours, will be found useful. For high temperature I also give in addition 5 grain doses of phenacetine when necessary. This is the treatment which I have applied to cases which have come to me in various stages representing various forms of the difficulty as described by the professor whose book is under consideration and some of the cases diagnosed by surgeons so famous with the knife, and in this specialty that their very names mentioned cause you to think of appendicitis. They have come to me with a mournful hopeless expression caused by these distinguished surgeons, whom they had consulted more than once, and who had said: "*nothing but an operation would cure them*" and have been permanently relieved in every instance.

It cannot be said, therefore, that I have diagnosed what has not existed, in view of the fact of New York City's greatest talent having differentiated the cases from other things.

Furthermore, it must be said, regardless of the surprise which these sentiments must create, that chronic recurrent appendicitis, representing numerous attacks with cessations of the same, have been permanently cured. In one case which I recall at this moment, as a sample, a tall brawny specimen of the Emerald Isle, who, after suffering months, with repeated attacks, had finally given up work altogether, and for eleven months had been sitting over a smouldering volcano, conscious at every moment of an impending evil, and frequently the victim of very severe attacks; this man after a month's treatment, landing at the hospital, as he did, under a most agonizing condition, has remained perfectly well now for months.

I saw him a short time ago, and in reply to my question, "How do you feel in the region of the appendix?" he said: "You know, I felt before I had these attacks as if you could hit me with a sledge hammer without hurting me. I feel so now."

No better answer could be given for the removal of a pathological condition, which had existed for months, and of which he was conscious of every moment.

It has not been my attempt in reviewing this book to do so specifically, but rather to consider its errors, in the mortality per cent. given of the operative procedure, and to place the medical oil treatment in the hands of all.

The carefully prepared work of Dr. Robert T. Morris, with its delicate technique expressed so definitely; the elaborate writings of Dr. Geo. R. Fowler, a distinguished Brooklyn surgeon, as well; and I may mention the name of Dr. McBurney also, seems quite sufficient to direct the surgeon in the operative procedure without this book. The statement, therefore, in this valuable (?) book, that probably 4 per cent. or less mortality—if statistics were carefully prepared—would be the showing by the operative procedure, and yet the actual showing in his work of 28 per cent. leads one to believe rather in the correctness of the proportion in the surgery quoted rather than in his statement.

I have no regrets over my success thus far. If there has been any pus cases, gangrenous appendices, enteroliths, copoliths, or over-active microbes, the persons having them under this treatment are as well off, for they are not conscious of anything. The principle that if we are not conscious of an organ it is in its normal condition the appendix is entitled to, so far, however, as pus is concerned.

After looking over an article in the *American Journal of Obstetrics* for April, by Dr. J. G. Clark, of Johns Hopkins Hospital, entitled "A Critical Review of 1,700 Cases of Abdominal Section from the Standpoint of Intra-peritoneal Drainage," I cannot but feel the assurance that Nature within the abdominal walls can take charge of and dispose of without serious complication a CERTAIN AMOUNT OF PUS, DEBRIS OR EVEN SEPTICÆMIC MATTER. G. Wagner, in his experiments on dogs, came to the following conclusions: "1. The surface of the peritoneum is equivalent to that of the skin (17.182 square centimeters peritoneum, 17,502 square centimeters of skin surface). 2. It has an enormous absorbing function, taking up in an hour 3 to 8 per cent. of the entire bodily weight. 3. Under the influence of very toxic or irritant substances or equal transudation into the peritoneal cavity may take place."

Muscatello, in one of his summaries, states: "There is normally a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm, regardless of the posture of the animal, although gravity can greatly favor or retard the current."

Dr. Clark suggests: "May the peritoneum dispose of infectious and noxious materials in a similar way? The peritoneum is capable of removing and combating infection." He furthermore states in his way that unhampered by artificial conditions there is probably no organ in the body where pyogenic organisms are more effectually destroyed. Again: "From our present view of this subject we cannot imagine more adverse circumstances against which the peritoneum is compelled to labor than those adopted and carried out by many surgeons." Any one reading this interesting article must be convinced of the ability of the peritoneum to absorb and dispose of pus and solid material within the abdominal cavity. Also, *that as soon as the peritoneum is opened* it loses markedly this power of absorption.

I might further add the following, taken from that most interesting work, "Tuberculosis of Bones and Joints," by Dr. Nicholas Senn. In describing the tests for tuberculosis, he says, when using pus injections: "If it is true pus, the injection will either be harmless, if the peritoneal cavity possesses sufficient absorptive capacity to absorb the pus and eliminate the pus microbes, or a circumscribed suppurative peritonitis will follow promptly."

The methods which I use to prevent a recurrence in appendicitis and to remove the sensitiveness, after the bowels have been thoroughly moved, in addition to what has been said, is the regular use of *sweet oil:* a tablespoonful taken, followed by a glass of hot water half an hour before meals. Keep this up for weeks.

If I can detect thickening in the region of the appendix a tablet of calomel and soda, gr. ½ to gr. iii is given, at first daily, then every other day, and finally only occasionally.

A System of Practical Medicine. By American authors. Edited by Alfred Lee Loomis, M.D., late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black. Vol. I. Infectious Diseases. Just ready. Vol. II. Diseases of the Respiratory and Circulatory Systems, and of the Blood, Kidneys and Genito-Urinary Organs. Just ready. Vol. III. Diseases of the Digestive System, of the Liver, Spleen, Pancreas and other Glands. Gout, Rheumatism, Diabetes and other Constitutional Diseases. In press. Vol. IV. Diseases of the Nervous System and of the Muscles. Diseases of Doubtful Origin, Isolation, Addison's Disease, etc. In active preparation. For sale by subscription. Per volume, cloth, $5; leather, $6; half morocco, $7. Lea Brothers & Co., publishers, Philadelphia and New York.

The second volume of this representative American system of medicine follows the first after an interval brief enough to satisfy the large number of readers who are awaiting each issue with expectancy. It considers the diseases of the respiratory and circulatory systems, of the mediastinum, of the blood, of the kidneys, of the bladder, and the prostate gland, and is amply illustrated with engravings and plates. In adherence to the design of the work, the practical aspects of medicine have received complete consideration in conformity with the most advanced and accepted views. The editors have received the willing assistance of the leaders of American medicine, and have therefore been able to assign each subject to an acknowledged authority. The work is particularly full in the details of treatment, directions being given with such explicitness that the physician will have no difficulty in selecting from the abundant prescriptions and formulæ those most applicable to the special features of the case before him. The work is, in a word, a complete and authoritative statement of the practical part of medicine as it stands today.

A Practical Treatise on Sexual Disorders of the Male and Female. By Robert W. Taylor, M.D., Clinical Professor of Venereal Diseases in the College of Physicians and Surgeons, New York. In one handsome octavo volume of 448 pages, with 73 illustrations and 8 plates in color and monochrome. Cloth, $3.00, net. Lea Brothers & Co., New York and Philadelphia.

It is so generally acknowledged that the proper regulation of the sexual function in both sexes is essential to the general well-being that it is surprising that deeper study has not been devoted to the scientific investigation of this department of practice.

Advertising charlatans long since learned how numerous are the cases of sexual disorder, and their success in largely appropriating to themselves this class of practice is in great measure due to the unsatisfactory manner in which this specialty is treated by the regular profession.

In the volume at hand is presented the personal experience of the author, whose widespread authority as a genito-urinary and venereal specialist has brought him an extensive practice among those suffering from disorder of the sexual functions. The prevalent lack of accurate knowledge as to the pathology and etiology of the disease of this nature led him to undertake exhaustive investigation in lines not hitherto pursued, with result of exposing much that is false in accepted beliefs, and in many instances indicating new methods of relief. Symptoms are made secondary to the various conditions which give rise to them, and the consideration of these conditions places it within the power of the practitioner to rationally treat an entity and not pursue the shadow.

In the construction of his volume the author has followed the same practical lines which have made his "Pathology and Treatment of Venereal Diseases" a most helpful assistant of the practitioner, and which will secure for this work an equal measure of approval from every one having to deal with sexual disorders.

System of Diseases of the Eye.—By American, British, Dutch, French, German and Spanish authors. Edited by William F. Norris, A.M., M.D., and Charles A. Oliver, A.M., M.D., of Philadelphia, Pa., U. S. A. Volume II. Examination of the Eye, School Hygiene, Statistics of Blindness and Antisepsis. With 13 full-page plates and 214 text illustrations. Philadelphia: J. B. Lippincott Company, 1897. Pp. 556, octavo.

It will be remembered that the first volume of this elaborate system appeared several months since and was well received, and now the second of the four makes its appearance, and we have no doubt will meet with an equally warm reception. The work is sold only by subscription, at the price of $20 for the four volumes, which is not high. The volume before us treats of the methods of technique in examination, taking each group *seriatim*. Beginning with the methods of determination of the acuity of vision and the range of accommodation, mydriatics and myotics, oblique illumination, the ophthalmoscope, the retinoscope, the ophthalmometer, the phorometer, and the perimeter, are all described minutely. The plans for the detection of color-blindness, given in their fullest detail, are next considered, followed by an accurate *résumé* of the conditions underlying the hygiene of the eyes in schools.

The article on statistics of blindness is carried further forward and made more general than any other paper upon the subject.

Antisepsis and bacteriological research, including much experimental work, and giving the latest views, form the end of this volume. What we said in review of the work as a whole, in our previous notice, should be read in connection with this article, as it gives an idea of what to expect of the finished effort. We may well be proud of the enterprise which makes the undertaking possible.

Pathological Technique.—A practical manual for the Pathological Laboratory. By Frank Burr Mallory, A.M., M.D., Assistant Professor of Pathology, Harvard University Medical School; Assistant Pathologist to the Boston City Hospital; Pathologist to the Children's Hospital and to the Carney Hospital; and James Homer Wright, A.M., M.D., Director of the Laboratory of the Massachusetts General Hospital; Instructor in Pathology, Harvard University Medical School. With 105 illustrations. Philadelphia: W. B. Saunders, 1897. Pp. 397, octavo, $2.50.

As the title indicates the scope of this work, it is only necessary to say that its objects are borne out by a perusal of its pages, and it is a practical guide for beginners as well as a book of reference for the advanced.

It has been the intention of the authors to present in consecutive statement the methods employed in solving the problems that arise in pathological work, in order to prevent repetition, and to bring the student to a realization of the real character of their efforts.

The text is divided into three parts, viz.: (1) post-mortem examinations, (2) bacteriological examinations, and (3) histological methods.

The authors have added the special methods employed in clinical bacteriology and pathology to the methods of post-mortem examinations, thereby enhancing the value of the book, and the methods and formulæ have been

selected with great care, in order to avoid confusion and make the work as practical as possible. Students will find this book suitable for working purposes, as it is intended.

THE ESSENTIALS OF OBSTETRICS. By Charles Jewett, M.D., Professor of Obstetrics in the Long Island College Hospital, Brooklyn, N. Y. In one handsome 12mo volume of 356 pages, with 78 Illustrations and 3 colored plates. Cloth, $2 25. Lea Brothers & Co., Publishers, New York and Philadelphia, 1897.

The pupil in any department of learning succeeds best by first securing a systematic knowledge of its rudiments, for it is seldom that the average medical student has the necessary mental training to analyze his subject for himself. Hence, works of the character Dr. Jewett has produced have a distinct value in medical teaching as introductory to the use of more elaborate treatises and as guides in following the didactic and practical teaching of the college course. The long experience of the author as a teacher has furnished him an accurate estimate of the wants of the student and his success in placing The Essentials of Obstetrics within the grasp of the pupil, is sufficient warrant that the volume will be widely welcomed.

Illustrations, both in color and in black, have been freely employed wherever they are capable of elucidating the text, and in typographical arrangement a system has been followed which should materially aid the student in assimilating the material presented.

ESSENTIALS OF BACTERIOLGY.—Being a concise and systematic introduction to the study of micro-organisms, for the use of students and practitioners. By M. V. Ball, M. D., Bacteriologist to St. Agnes' Hospital. Philadelphia. Third edition, revised, with eighty-one illustrations, some in colors, and five plates. Philadelphia: W. B. Saunders, 1897. Pp. 218, 12 mo, $1.00.

This little volume is a concise compendium of practical bacteriology as it stands to-day. The article on diphtheria has been revised to cover the latest knowledge concerning antitoxine in the treatment of this disease. There is added in the appendix an article on "Bacteriologic Examination of the Organs and Cavities of the Human Body." The book has been found useful or a third edition would not be found necessary in so short a time.

THE ORIGIN OF DISEASE, especially of disease resulting from intrinsic as opposed to extrinsic causes, with chapters on diagnosis prognosis and treatment. By Arthur V. Meigs, M.D., Physician to the Pennsylvania Hospital. With 137 original illustrations. Philadelphia: J. P. Lippincott Co., 1897.

A work of this character is very much needed by the profession. The rage for specialism, and the able minds which have been engaged as specialists in the various departments of our profession, has led to the discovery of many new and most important facts. One great object of this work in which the writer has been very successful is to bring together these isolated facts by a closer union of clinical medicine and pathology.

The author says: "At autopsies in hospital practice it has been my custom to retain for microscopical examination portions of the five great organs—heart, lung, liver, spleen and kidney—and of every other tissue the appearance of which seemed to indicate disease. The habit of examining with the microscope portions of the five organs named, even if no disease was apparent to the unaided eye, has been prolific of results. It is common for leisons which entirely escape the closest macroscopic investigation to be revealed by the microscope. Thus by examining tissues revealing no unhealthy appearance the beginnings of disease can be studied." Of course perfection in this line of work requires long practice and as perfect a technique as possible. The drawings were made with the camera lucidia, the outlines, dimensions and relation of parts being thus kept true to nature. The work will be warmly appreciated by the thoughtful physician for the clearness with which it weaves together into an intelligent whole the scattered ideas of specialists and traces out those obscure causes of disease which it has sometimes been so difficult to reach.

LECTURES ON THE MALARIAL FEVERS. By William Sydney Thayer, M.D., Associate Professor of Medicines in the Johns Hopkins University. New York: D. Appleton & Co., 1897.

In his introductory remarks the author states as the object of his work, "To place before the reader a summary of the present status of our knowledge concerning malarial fevers. There are few diseases toward the comprehension of which greater advances have been made within the last fifteen years, and yet it is surprising how slow the general medical public has been in appreciating the true significance and value of the results which have followed Lavarian's discovery of the malarial parasite. The term malaria has come to be applied in so loose a manner in recent years to so great a variety of different pathological conditions that it has been difficult for many physicians to realize that malarial fever is in fact a disease as sharply defined and as easily recognizable as pneumonia, pulmonary tuberculosis or diphtheria." In the following lectures the author, in his logical arrangement of facts, drawn in abundance from recent scientific investigations, demonstrates conclusively our ability to distinguish malarial infection from other febrile process, and of course adds to the skill in treatment. We consider this work in its scientific and practical value as one of the most important recently issued from the medical press.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By H. C. Wood, M.D., LL.D. A work on medical agencies, drugs and poisons, with especial reference to the relations between physiology and clinical medicines. Tenth edition, thoroughly revised. Philadelphia: J. B. Lippincott Co., 1897.

This work has so long been a standard in the profession it is only necessary to call attention to the tenth edition and to state that it has been thoroughly revised, and that while some drugs of minor importance have been wisely omitted, additions have been made to the scope of other drugs, especially to those of animal origin used as medicines. These additions give additional value to the present edition.

PRINCIPLES OF MEDICINE. By Charles Mack, M.D. Chicago: The W. T. Keener Co.

The object of this book is to show just what is the cure sought in any given practice of homœopathy—to show that that cure cannot be intelligently attempted except under the guidance of *similia similibus curantur*, and to show that one may consistently accept homœopathy and at the same time accept whatever else is good in medicine.

INTERNATIONAL CLINICS.—Vol. II. Seventh series. Lippincott & Co., Philadelphia.

This is, as usual, full of interesting articles on practical subjects by popular clinical teachers and writers. The plan of the publication enables it to present the cream of medical literature in well-digested articles more minutely than would be warranted in a medical journal, and more easily preserved in the library for ready reference.

ABOUT CHILDREN. Six Lectures given to the nurses of the Training School of the Cleveland General Hospital by Samuel W. Keeley, M.D. *The Medical Gazette.*

These lectures are scholarly, practical, and given with that easy, graceful diction which impresses the subject strongly on the mind. The work will form a valuable addition to the library of the training school.

RHEUMATISM AND ITS TREATMENT BY PERCUSSO PUNCTATOR. By J. Brindley James, M.R.C.S., Eng. London: The Robman Publishing Co., 1897.

THE PRESENT STATUS OF DIPHTHERIA ANTITOXIC SERUM.—The H. K. Mulford Co., of Philadelphia, has presented an excellent *resume* of this subject, a copy of which will be sent free to any one who mentions this journal. The chapter on immunity is the most complete that has ever been published on the subject.

The concensus of the best opinion certainly favors this mode of treatment Full directions are given as to the method of administration, dosage and supplementary treatment.

Our readers who desire to employ this treatment should obtain a copy of this *brochure.*

WE have received the first issue of *Mind*, whose province, as stated by the editor, John Emery McLean, will be to encourage the highest thinking, the evolving of profounder motives of action, and the bringing up through the lower and external nature of better concepts of life, truth, duty and real knowledge. Judging from the October issue of the periodical and the well-known ability of the editor we are led to expect a magazine of great interest to the thinking community. Alliance Publishing Co., Life Building.

EVERY physician who uses electricity should send for a copy of the *Electro-Therapeutist*, a monthly journal devoted to electro therapeutics for the general practitioner. Write the editor, Wm. F. Howe, M.D., Indianapolis, Ind., mentioning this journal, and he will send you sample copies gratis.

THE *Hypnotic Magazine*, Chicago, is filled with exceedingly interesting and well-considered articles upon suggestive and electro therapeutics, now occupying a large place in the thought of the profession.

THE SCIENTIFIC BASIS OF MEDICINE. By J. W. Huysinger, M.A., M.D. Philadelphia: Boericke & Tafel.

A concise and thoughtful presentation of the subject.

The Living Age.—There is no necessity of calling attention to the literary value of the *Living Age*, but it will probably be of interest to know that subscribers for 1898 will receive also all the weekly issues of 1897 from the time of their subscription. Send subscription, $6, to *Living Age*, Boston, Mass.

SOCIETY REPORTS.

FECAL FISTULA FOLLOWING OPENING AN APPENDICEAL ABSCESS.*

By WILLIAM L. RODMAN, A.M., M.D.,

Professor of Surgery and Clinical Surgery in the Kentucky School of Medicine, Etc., Louisville, Ky.

The young man before you, aged twenty years, called at my office for examination to day for the first time. Two years ago in July he was taken with appendicitis. I was summoned to see him on the fourteenth day after the onset of his illness, but being unable to go I sent my assistant, Dr. Dunn, who opened a very large abscess, in the region of the appendix, and drained it. He continued to treat the case as he had visited it primarily for me. I have not seen the patient until to day. I have heard from him from time to time, however, as there has been a fecal fistula for the last two years. He now has quite a large tube in the fistula, which acts as a plug to keep the fecal matter from leaking.

He says now that he is tired of carrying this fistula and has made up his mind to have an operation for its closure performed, and it is my purpose to do this on Thursday next at my clinic at the Kentucky School of Medicine Hospital. The contents which escape from the fistula, you will observe, are very fluid, and we have the leakage going on all the time, or it would do so if he did not wear the plug. He tells me that occasionally well-formed fecal matter passes from the opening, but usually the discharge is a thin liquid.

This is the only permanent fecal fistula I have seen following appendicitis; I have seen several temporary fistulæ, but this is the only one that has lasted for such a great length of time. Dr. Dunn states that he has resorted to all the ordinary means of closing the fistula; he explored the tract and curetted it several times, stimulated it with various applications, sulphate of copper, nitrate of silver etc., without success, and now it is a question in my mind whether I ought to curette more thoroughly under anæsthesia the entire fistulous tract or suture the opening in the gut carefully by several layers of sutures through the mucous membrane and submucosa first, then through the muscular and peritoneal coats, then close the abdominal wall over it—that is the operation I expect to do unless I am convinced in the mean time that I should do something else. The only thing else would be to dissect the gut loose from its attachments to the abdominal wall and make an end to end anastomosis, which I hardly think is the proper thing before attempting the milder procedure. The opening in the gut is quite a large one.

DISCUSSION.

Dr. L. S. McMurtry: If so long a time had not elapsed since the operation in this case I think there would be reason to expect this fistula to close of itself with an ordinary dressing applied. I have seen several fecal fistulæ, with a history such as he describes—where there was a large abscess, and where after getting well there came a little pimple, which finally ruptured and developed into a fecal fistula. If any operation is done, the procedure spoken of by Dr. Rodman is an appropriate one.

Dr. W. O. Roberts: I believe the plan mapped out by Dr. McMurtry would answer very well for recent cases, but for the length of time this fistula has existed I do not believe it will close without an operation, and of course what operation is to be done would depend entirely upon what Dr. Rodman finds when he exposes the part. I am certain that these fecal fistulæ are kept open by packing. Last winter, when I went on duty at the city hospital, a man had been operated upon for appendicitis, and several weeks after the operation, when I took charge, they were still packing, and fecal matter was coming out through the wound. I asked that the packing be discontinued. After waiting a day or two I went to see the patient again, and found he was still packed. I came to the conclusion that the process would not be stopped, and decided to operate upon him at once. The next day I did so, and in removing the packing from the wound found quite a large quantity of iodoform gauze in the gut. The gut had become adherent to the adominal wall, the packing was simply keeping the wound in it open. I detatched the gut, then closed the opening by a double layer of sutures and closed the abdominal wound. The patient made a perfect recovery.

I do not believe curetting will do any good in the case before us, as I think the wound will not heal without an operation, and Dr. Rodman will probably find it necessary to perform about such an operation as I have outlined, after he has exposed the gut.

Dr. J. G. Sherrill: I recently saw a case of fecal fistula, not, however, resulting from appendicitis, but from an abdominal section for obstruction. The gut was adherent, as in the case Dr. Roberts has mentioned, just inside the abdominal wall. The case was in the practice of Dr. H. H. Grant. After thoroughly cleansing the fistulous tract he made an incision above, and pulling up the gut dissected it loose from the abdominal wall, closed the opening in the gut, then returned it to the abdominal cavity, allowing the fistulous tract to close by granulation. I think unless the fistulous tract is too long this is the best method of operating.

Dr. James S. Chenoweth: Several years ago when we did not get hold of appendicitis cases as early as we do now, I saw several cases of fecal fistulæ. I can recall at

*Reported to the Louisville Surgical Society. Stenographically reported for this journal by C. C. Mapes, Louisville, Ky.

least half a dozen cases of fecal fistula following removal of the appendix, or sometimes the opening of large abscesses, and they have in each instance closed without any operation. I have a specimen which I would like to exhibit to the society to-night in which a large fecal fistula followed the removal of a gangrenous appendix, with abscess, in which I was forced to remove everything because there were no anterior adhesions. The fistula closed at the end of two weeks after the operation. In one case upon which Dr. Cartledge operated I remember there was a fecal fistula which persisted for eight or nine months, and was kept open as in Dr. Roberts' case by eversion of the mucous membrane of the caecum. The fistula closed after thoroughly destroying this by cauterization and scraping. I had such a case recently, which continued for about eight weeks There was very little fecal discharge, but gas passed freely through the opening. It closed after one injection of chloride of zinc, ten grains to the ounce. It seemed to cause some inflammatory action in the fistulous tract which caused prompt closure.

I would certainly give the case before us the benefit of an operation, as the fistula has persisted for so long that I believe it will not close without an operation.

Dr. W. L. Rodman: As to the time this fistula has existed: It is certainly two years, and I think it is three. I propose to operate upon the case just about as Dr. Roberts had described. I have seen several fecal fistulæ, but they have all closed spontaneously in the course of ten days or three weeks.

As to the suggestion Dr. Chenoweth makes about chloride of zinc: I have used that for twenty years, in fact, ever since I have been in the practice of medicine. The elder Gross always used chloride of zinc for injection into sinuses of every kind. I do not know how it acts, but it will close up an old suppurating sinus quicker than anything else. If I did not know that Dr. Dunn had tried all the ordinary measures in his efforts to close this fistula, I would put the patient flat on his back in bed and keep him there for at least three weeks, and stimulate the sinus and try to get closure in this way, but I rather fancy from the amount of leakage, and the fact that the opening is so large, that it will not close unless an operation is performed.

CORRESPONDENCE.

A SCIENTIFIC CLASSIFICATION OF INFANTILE MENTAL DEFICIENCY OR IMBECILITY RESULTING FROM HEREDITARY OR OTHER CAUSES, CONGENITAL OR ACQUIRED.

MESSRS. EDITORS:—The above is the subject and object of a most important and interesting movement that has recently engaged the attention and scientific thought of the medical world of Paris, and deserves the fullest consideration of the profession generally. Its value will doubtless be at once recognized, involving as it does the early beginnings of mental diseases and alienations in infantile and subsequent life, with suggestions as to their proper management and treatment. So, without further preface, I propose to give, in extenso, a translation of an able paper upon the above subject, with the hope of engaging the thoughtful consideration of your numerous readers. The paper is in the form of a communication from Monsieur Bourneville, Editor-in-Chief of the *Progres Medical*, of Paris, to Monsieur Carriot, Director of the "Enseignment primaire" of the Department of the Seine.

JAMES A. CARMICHAEL, M. D.

Monsieur Carriot, Director.—Convinced of the utility of special classes—"classes speciales"—for the children of the primary schools that are more or less deficient in their intellectual development, or are subject to a mental instability which renders them turbulent and undisciplined, you announce your intention of instituting an investigation of all the districts of the city of Paris similar to that made in the fifth and sixth. For this new inquiry, with which you, most reasonably and justly, desire to associate the medical inspectors of the schools, you ask me to give you a definition of the words deficient and undisciplined—arriérés et indisciplinés—with an indication of the distinctive and scientific characters of one and the other, and I will endeavor, as far as possible, to respond to your wishes. Under the name of idiocy is designated a constitutional condition, physical, intellectual and moral, and due either to troubles supervening during fœtal life or at the moment of birth, or to pathological affections, especially of early infancy, that is to say from birth to seven years, and less frequently during second infancy, *viz.*, from seven years to puberty—thirteen or fourteen years. Idiocy is then congenital or acquired, and considered in its intensity, is complete or incomplete. In all its varieties, idiocy may be simple or complicated paralysis, epilepsy, chorea, rachitis, scrofula, etc. Complete idiocy, absolute, or idiocy of the first degree.

In this form progression, prehension, speech, attention null, with total incapacity to help oneself, no consciousness of the necessity for taking food or gluttony, with an absence of the sense of satiety, permanent discharge of the saliva and nasal mucus, involuntary excretions, with ejaculations, contortions, grimaces and agitation of the hands, etc, while the organs of the senses may be intact from an anatomical point of view, yet hearing, seeing, smelling, taste and touch seem to be absent, and the general sensibility is very obtuse, with indifference to pain, cold or heat. There is no knowledge of parents or attendants, and without ideas, speech or movement. Idiots of this class are merely beings in a kind of vegetation. Calmeil, vividly impressed with the slight of these idiots, exclaimed: "There exist human beasts!"

Profound Idiocy or That of the Second Degree.—The motility is less affected than in the first degree, progression is possible, sometimes exaggerated, there is prehension, but defective, the thumb not opposing itself, or feebly, to the other fingers. The appetite is abnormal, with defect of the sense of satiety, taste null or obtuse, digestion sometimes complicated with rumination, excretions involuntary. Speech is absent or limited to a few monosyllables, or repetition of syllables. Wants or instinctive determinations show themselves by a language of action; joyful or painful cries. These idiots very often recognize their parents or their attendants, and they manifest preferences for certain persons. Frequently they present musical capabilities, retaining the airs which they hear, and singing them incessantly, thus showing more or less the faculty of memory. The attention is fugitive. They look without seeing, hear what pleases them and seem absolutely deaf to noises or appeals that do not interest them; smell and touch are obscure or indifferent. These children have no consciousness of danger, and like the idiots of the first degree have various propensities. They tear their nails, bite themselves or others and are addicted to onanism; in a word, their life is mostly vegetative, and its relations very limited. What differentiates this second group from the first is the existence of movement, progression and prehension, which makes them dangerous to themselves and to others, as movement exposes them to accidents because of their unconciousness of danger, and causes others to suffer from their impulses.

Imbecility Properly Called.—Here the intellectual faculties exist, but in a very imperfect degree; the attention is transient, memory inactive and uncertain, no energy of will, they wish and they do not wish, they can compare and combine, but always find difficulty in realizing general or abstract ideas; they have ideas, but very few; they think and act only through others while they are capable of reasoning; their determinations are instinctive, like the idiots of the second degree, and they obey them without restraint. Among these there are some in whom imbecility is complicated with a perversion of instinct; they are liars, quarrelsome, indolent, cowardly, obstinate, fickle and incapable of any sustained effort, and have needs to which they yield without resistance. Possessing only a vague motion of thine and mine, they are impelled to rob, destroy and burn, etc. Speech exists, but pronunciation is defective; their language is limited, phrases imperfect, the verb being sometimes absent. They speak of them-

selves in the third person, and can perform simple and uniform occupations, always the same; they have affectionate sentiments, but often superficial, and the general sensibility is dull, the senses are frequently intact, but possessing no delicacy.

Slight Imbecility or Intellectual Deficiency.—The intellectual faculties, considered in their entirety, exist, but are retarded, notably below the faculties of children of the same age. The attention leaves much to be desired; it is always possible to fix it, at least for a time, which increases if the intellectual occupation is varied. Reflection and prevision exist only in a very feeble degree, conception is slow, memory sluggish, and they learn by periods. They have particular propensities and special aptitudes, and their intelligence manifests itself principally by whatever may be relative to these propensities or aptitudes, and they should be utilized in order to enlarge their intellectual scope. Among these aptitudes may be cited piquant repartee, sallies of pleasantry, a jovial and characteristic manner, for example, those unfortunates who assume the function of the king's fool—fou du roi. They have moral sentiments, gayety, and family affection, and to a certain degree, possess the sense of duty and order. Their look is not intense, but not evasive, nor is it lost in vacancy. Movement, locomotion, prehension, general and special sensibility are usually intact. From a physical point of view, they present fewer and less pronounced marks of degeneracy than the imbeciles, and particularly the idiots.

Mental Instability.—This is sometimes simple, constituting a distinct variety, but it is most generally allied to imbecility, to intellectual arrieration, designated by the name of mental debility. The mentally unstable have an exuberant physical motility, they rest nowhere, get up from the table without purpose or motive, and if they play pass rapidly from one play to another. Their intellectual motility is no less exaggerated, scarcely have they begun to read before they want to write or to count, etc., and they are not obedient. It is the same with manual labor. Soon after beginning an apprenticeship in a profession which they themselves may have chosen they want to change it, thus trying a number of professions, one after the other, without settling upon any one. They have sudden impulses, play truant from school, absent themselves from home, wander about for a long or short time, then return spontaneously, or cause themselves to be arrested by the police. They are prodigal of promises, often make them in good faith, with the intention at the moment of keeping them, and a few hours or minutes later do what they have just promised not to do.

Moral Imbecility.—The children or adolescents of this group may possess their intellectual faculties intact, be the equals of other children of their own age, may belong to the same class, have their certificates of studies, etc. Their intellectual defects are of a secondary character; the marks of physical degeneracy are sometimes absent altogether. Moral imbecility, like idiocy, reckons as its cause heredity, alcoholism, but it is often due to the incapacity, brutality and immorality of the parents. It may manifest itself by violent paroxysms of rage, by unreasonable and unusual caprices, or periods of surliness supervening after an ordinary febrile disease, accompanied, or not, by cerebral accidents—delirium, convulsions, etc., or as a result of precocious growth, with rapid development of puberty. Inversely with the intellectual imbeciles, they are sexually in advance of their age, and hence have genital impulses which render them dangerous. Instability and the perversion of the instincts chiefly characterize moral imbecility. In them mental instability presents the characters already described, and as respect the perversion of the instincts it offers the following traits: The conduct of these subjects is inexplicable, and inharmonious with their previous condition and with their surroundings. They are disobedient, in revolt against all social conventionalities, all remonstrances, all petitions, all friendships, reject all encouragements, all gifts, defy all punishments. They abandon themselves to deliberate lying, maintaining their falsehoods obstinately, and are often credulous in excess toward those to whom they give themselves up and who control them. Their affections are feeble or they have none, which is due to the culpable indifference of their parents; they are subject to all bad impulses, viz.: robbery, incendiarism, destructiveness, cruelty to animals, to their weaker comrades, etc. They take pleasure at the sight of suffering, like to see blood flow. Moral imbecility is sometimes complicated with alcoholism, epilepsy, insanity and sexual perversions. The medico-pedagogic treatment should be applied to what little remains of sanity, and make it serve as a base to correct the moral defects and intellectual imperfections. Children affected with idiocy in the first or second degree, and those with moral imbecility, should be kept in hospitals; the same should apply, at least at the beginning of the creation of special classes, to children stricken with imbecility, properly called. These classes should be devoted to children affected with, first, slight imbecility or intellectual arrieration. Second, mental instability without perversion of the instincts. Third, later they should receive also idiotic and imbecile children who shall have been improved and judged to be apt to profit by the classes.—*Bourneville.*

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Carbonate of Guaiacol.—Prof. Dujardin-Beaumetz, of Paris, says in the *Dictionnaire de Thérapeutique:* In addition to its neutralizing and eliminative action upon the tubercular poison, and to its marked influence upon the general functions and upon nutrition, the Carbonate of Guaiacol possesses a specific action of its own, similar in nature to but more marked than that of creosote and guaiacol themselves. The specific action is shown in all cases by return of the appetite and improvement of the digestion.

Corresponding to the improvement of the general condition there is a substantial improvement in the condition of the lungs. The râles rapidly diminish, become less frequent, and may even disappear. The dullness decreases; and in certain cases, after several months of treatment, a cicatrization of cavities has been noted. The number of bacilli in the expectoration diminishes progressively.

To sum up, it is a neutralization and elimination of the toxines that occurs. The blood is permanently deprived of the toxic products, as soon as it is supplied continuously and in sufficient quantity with guaiacol; and the Carbonate of Guaiacol is the compound par excellence to effect this end.

Cystitis Treated with Urotropin.—Prof. Arthur Nicolaier, M. D., has introduced a combination of formaldehyde and ammonia, under the name Urotropin, in the above affection. He says cases of cystitis where the urine remained acid, as also cases of inflammation of the bladder, consequent upon gonorrhœa, were also cured with the drug; but it seemed to give the best results in cystitis with ammoniacal decomposition of the urine, and it is in this form of inflammation of the bladder that I can more especially recommend it to the practitioner.

As regards the dosage of Urotropin, my experience would show that daily doses of 1.5 grm. (22½ grains) should not be exceeded. For I have found that even when a single much larger dose was well borne, its continued use for longer periods of time caused unpleasant by-effects in a number of cases.

Urotropin is not an expensive drug, and its use is rendered still cheaper by the fact that its manufacturers, the "Chemische Fabrik auf Actien," formerly E. Schering, of Berlin, supply it to the trade in pastils of 0.5 grm. (7½ grains) in original packages containing 20 pieces.

Under the influence of the Urotropin there very rapidly occurs a marked change in the composition of the urine in these cases of cystitis, with ammoniacal decomposition,

First the ammoniacal smell of the freshly voided urine diminishes in intensity, and soon entirely disappears. Then the reaction, not only of the fresh urine, but also of the entire daily quantity, becomes acid again. The urine becomes clearer; the triple phosphate and urate of ammonia crystals disappear and the serious troubles, so frequently caused by the abnormal constitution of the urine, cease.

Creosotal.—Prof. Dujardin-Beaumetz says in the *Dictionnaire de Thérapeutique*.—By the union of carbonic acid with creosote there is produced a body neutral in reaction, bland and oily to the taste, odorless, entirely without irritant effects upon the mucosæ, and which can be absorbed in large doses without in any way deranging the stomach. This new compound, called Creosotal, is as active, weight for weight, as creosote itself; which is readily conceivable: as nine-tenths of its mass is composed of that substance. Creosote itself contains guaiacol, cresol, phlorol, dimethylether and propylpyrogallol; all of these form carbonates, and this mixture of carbonates forms the new drug.

One of its first effects is an increase of appetite, and a betterment of the general condition. Thereon follows a diminution of the cough and of the purulent bronchial expectoration. At the same time, the characteristic physical signs become less marked and disappear. In the early stages of tuberculosis, even cicatrization may occur. Parallel with the increase of the appetite and the disappearance of the phenomena of pulmonary auto-infection, there occurs a notable augmentation in the body weight. This increase amounted in some cases to several pounds a month. Often the cough and the physical signs disappeared entirely. The pharmaco-dynamic effects of Creosotal are, therefore, exactly analogous to those obtained by the hyperdermic injection of creosoted oil, or of iodoformized guaiacol.

"Carding" the Sciatic Nerve.—In the London *Lancet*, August 14 a novel procedure for the relief of obstinate sciatica is described as follows:

"The operation of 'carding' or 'harrowing' the sciatic nerve for very obstinate sciatica was first performed about a year ago by Dr. Delagenieere, of Mans, in a case in which he presumed that the cause of the pain was a varicose condition of the veins surrounding the nerve. The intention was to excise these veins after the method recommended by Quenu, but when the nerve was exposed instead of the varix he expected he found only a number of small serpiginous vessels running along it, causing the surface to present a furrowed appearance. It was obviously impossible to ligature and resect these, so he contented himself with teasing or carding the fibres with a blunt forceps throughout the whole exposed portion of the nerve in the hope of destroying the vessels existing in its deeper parts, and of thus being able to put an end to the stasis in the venous twigs. The result was that the patient was cured. This encouraged another surgeon, Dr. Gerard-Marchand, to attempt a similar process which he denominates *hersage* or 'harrowing' in sciatica where there was no reason to suppose that a varicose condition existed. The first case was that of a woman, aged thirty-seven years, who was unable to sleep or to stand upright, characteristic scoliosis being present. There were no signs of varicose veins or of hysteria. The second was that of a man, aged forty-five years, with a very old-standing sciatica, no treatment having been of any avail. Here also, there were no varicose veins. The operation, which was similar in the two cases, was performed under chloroform, and consisted of exposing the nerve and teasing apart its fibres for a distance of two centimeres by means of a grooved director. The appearances were normal, there being no discoloration and no dilatation of the vessels. After the *hersage* the nerve was flattened out to twice its ordinary breath. A drainage-tube was inserted and the wound sutured and dressed with iodoform and absorbent cotton wool. For several days the patients complained of pain in the nerve and of numbness in the limb. The pain, however, gradully passed off and sensation returned, complete recovery resulting in both cases. From experiments on animals Dr. Gerard-Marchand has been led to conclude that *hersage* of the sciatic nerv produces temporary loss of sensation in the nerve, while the motor power is not interfered with. He suggests that probably this operation may be found of value in the case of other neuralgias which have resisted all ordinary treatment.

Creosote in the Treatment of Children. — Hock (*Wien Med. Blaetter*, Dec. 3, 1896, *Med. News*) has had brilliant results from the use of creosote in treatment of children, not only in phthisis but in the sequelæ of whooping cough and the catarrh which so often follows measles. These two conditions, as is well known, furnish a favorable opportunity for tuberculous infection. The usual treatment with expectorants is too often without result. Most diseases of childhood are accompanied by disturbances of digestion, and these are the symptoms which are first relieved by the use of creosote. The appetite improves, the abdominal pain disappears and weight increases. Later the pulmonary conditions improve. It goes without saying that the creosote must be given in such a manner as not to upset the stomach, and large doses in a concentrated form are therefore to be avoided, the drug being given in small doses with meals. Pills, though cheap, are objectionable, especially for very young children. Hock was most successful with a 1 to 2 per cent solution of creosote in cod liver oil, to which one-twentieth of 1 per cent. of sugar was added. The dose of this mixture is from ½ a dram to ½ an ounce, three times daily, according to the age of the patient.

Glycerine in Affections of the Stomach.—Some years ago Dr. Sydney Ringer recommended the administration of glycerine by the mouth in certain affections of the stomach. Acting upon his suggestion, Sir James Sawyer has since treated many cases of painful gastric digestion such as are usually attributed to subacute or chronic catarrh of the gastric mucous membrane, with glycerine, and with satisfactory results. He gives one drachm, a drachm and a half and sometimes even two drachms, with a little of some simple stomachic tincture, diluted to an ounce with water, thrice daily, between meals.

Treatment of the Vomiting of Pregnancy by Oxygen Water.—The *Journal Des Practiciens* of March 20, 1897, quotes Gallois as having employed oxygen water with very great success in the treatment of the vomiting of pregnancy. He has often found inhalations of oxygen useful. The oxygen water which he employs contains ten volumes of the gases, and is administered in the dose of one teaspoonful to the ounce, dilute with with an equal quantity of water or in other cases diluted even further than this. The liquid is to be taken in small quantities, half to one teaspoonful at a time. He claims that its action is rapid and that relief is soon obtained.

Citric Acid in the Treatment of Wounds.—G. Mueller (*Wien. Klin. Woch.*, June 10), had been treating a wound for four months that absolutely refused to heal in spite of massage, hydrotherapy and the most approved methods of treatment, ancient and modern, when he casually applied the juice of lemon to the wound and was surprised to note that it at once commenced to heal, and complete recovery followed. He applied the juice of a lemon twice a day, with compresses of the same. The effect on other cases since has been equally favorable.

Camphor as an Anti-Galactogogue.—Dr. Herrgott (*Rev. Med. de l'est*) being dissatisfied with the effect produced by the usual anti-galactogogues, including antipyrine, has tried camphor, and finds that nine and one quarter grains a day divided into three doses, and given for three days, nearly always produce a remarkable diminution of the secretion. He has used it in thirty cases, having been first led to try it by the good results obtained by Keiner in animals, especially milch cows.

Cocaine for Tetanus.—Bowman, in *Med. World*, stated that a Mexican boy, about twelve years old, had tetanus, and cocaine was prescribed in the usual dose, but the druggist, by mistake, gave ten times the amount. This was not known till after the remedy had been given, but the result was complete recovery. The same was tried in another case with a similar result.

RETROSPECTIVE DIETETICS.

Dr. C. C. Fite, in his "Plea for a Uniform Diastase Test" before the American Medical Association, makes the following practical statements:

It is well established that the ptyalin of the saliva ordinarily acts for at least thirty minutes after the close of an ordinary meal, as the stomach contents does not generally reach the degree of acidity necessary to impair or destroy diastasic action before that time. It is therefore evident that, as diastase is administered therapeutically during or immediately after a meal, a thirty-minute test would be of more value to the medical practitioner than any other and would enable him to judge more correctly as to what dose of diastase he should administer to a given patient, and as to whether he should administer an alkali before the meal is taken. . . .

Another problem which should receive very careful attention is whether or not pancreatic extracts should be standardized by the same tests as vegetable diastase. I am convinced that while we may get good results in certain cases from the use of pancreatic extracts, we can not depend on a definite diastastic action which is or should be similar to that of ptyalin, for we must remember that nature places the amylopsin of the pancreatic juice and the other various duodenal enzymes below the stomach, and they are intended more for completing and finishing the changes already begun by ptyalin before the peptic digestion supervenes. In other words, they are not intended by nature for beginning the conversion in the stomach, but act, we might say, on the food mass later, when it has an acid reaction, during the time it is being changed from an acid to an alkaline reaction, instead of on the alkaline or neutral mass when it is being changed into an acid condition, as is the function of the ptyalin, and therefore we should consider vegetable diastase supplementary to ptyalin; acting on the starch preliminarily and not secondarily.

The Custom of Weaning Newly Born Children. — Dr. Angel Money says this custom is entirely too prevalent, and too few attempts are made to correct the milk when at fault (*Brit. Med. Journal*). A thorough investigation of mother and milk should be made, and the quantity and quality of the latter determined, and the percentage of fat and proteid, the only variable factors, ascertained. Bad milk contains toxic mattars, albumoses and leucomains, albumen being plentiful, but of the wrong kind, while the percentage of fat is defective. Colostrum corpuscles are present and may be numerous. The most successful milk is that of mothers desirous and confident of ability to nurse. Exercise can diminish percentage of proteids, and a moderate amount of beef or mutton can increase percentage of fats. These facts are seldom acted upon. A poor milk may be enriched by improving the maternal dietary, giving more meat and more milk, diminishing exercise, shortening intervals of nursing, and diminishing amount of liquids imbibed. Rich milk may be diluted by lengthening the intervals of nursing, decreasing the amount of meat eaten, increasing exercise, augmenting fluid drunk, drinking rain or distilled water. Helidon, or vichy water, midway between the nursings, is an excellent practice. Colostrum corpuscles present after the first fortnight signify defective formation of milk. It is unjustifiable to diminish the water in pure milk by purgatives, which may stop milk flow, or may even cause the milk to contain toxic substances. The breast-pump is not sufficiently used to improve the function of lactation; it should replace the baby while attempts are being made to improve the milk. The more perfectly formed the milk is, the more caseinogen and less albumin it contains. However great the percentage of caseinogen, it never in the stomach forms dense clots, as formed by cow's milk. It is a mistake to suppose that stout or porter improves milk; another error is the belief that beef tea and chicken broth are good for nursing mothers. Excitement, fatigue and over-feeding should be avoided; also, highly spiced, rich and stimulating foods. The bowels should be regulated by proper dieting and massage exercise, rather than by laxatives, and it is highly desirable that there should be at night uninterrupted sleep for six hours for mother and child.

Regime During Pregnancy.—Dr. Eichholz (*Rev. Méd.*) believes many complications accompanying and following pregnancy are due to errors of regimen. While pregnant the woman should avoid excesses of water and albumin; the one causing excessive development of the fetus, the other giving rise to an excessive secretion of liquor amnii. Based upon twenty-five observations he prescribes the following regimen: Fresh meat, once daily in small quantity; green vegetables, salad, potatoes, bread and butter. Avoid eggs as much as possible, peas and beans. Wine, beer and spirits are forbidden, and only enough liquid should be taken to allay thirst. The advantages are:

1. Activity is preserved up to the time of delivery; sensations of fulness, fatigue, thirst and constipation disappear early.
2. Rapidity and ease of delivery even in cases where previously it had been difficult.
3. A limited quantity of amniotic fluid.
4. Possibility of nursing offspring, the milk being of good quality and quantity. The medium weight of the children was six pounds and the circumference of the head thirty-three to thirty-four centimetres.

Fowl Serum in Pneumonia.—Dr. E. H Martin, in the *Medical Record*, p. 442, 1897, gives an account of a peculiar use of chicken and turkey blood with hot water as food in the treatment of pneumonia, on the idea that these fowls are immune to croupous pneumonia. During a year's treatment he had not lost a case of pneumonia. His first case was one of double pneumonia in a man of sixty-five years, to whom he gave two ounces of fresh chicken blood in a half tea cup of hot water every four hours. He would like to have hospital experiments begun on the same plan and he would also like to be able to get a reliable fowl serum to use by injection into the blood.

Diet for Gout.—Prof. H. C. Wood, in a recent lecture on this disease, says: You know that we inherit from Sydenham the belief that gout is made worse by red meats and that they should not be used. I have seen gouty patients in whom a single piece of ordinary red roast beef would precipitate a furious attack. I have also seen many gouty patients who would not get well until they were put upon red meat. What is diet for gout? There is no diet for gout. It is diet for the individual. I have seen gouty patients who if they took starch or sugars went right down, and I have seen gouty patients who had to take starch and sugars to be built up. Therefore the first principle in the diet of gout is to adapt it to the individual before us. You judge of the case by the effects of experiment. In a large majority of cases sugars and starches have to be cut off. In spare gouty patients starches often do good; farinaceous diet may be essential. A milk diet is one which probably suits the large majority of patients. But that which suits the individual, the stomach, the digestion, will suit the gout or kill the gout.

On the Sterilization of Milk.—Marian combats the idea so widely spread among the laity, that sterilized milk is always safe. He has had occasion to report (*Rev. Int. de Méd. et de Chir.* No. 18, 1896) an epidemic like outbreak of severe gastro-enteritis in young children. These children were all fed with milk that had been carefully sterilized and then delivered by the company. Upon investigation it appeared that the milk was sterilized sixteen hours after milking. While the sterilization was abundantly able to kill the bacilli, they had time in the meanwhile to multiply and develop toxic substances which were the cause of the outbreak.

An Adulterant of Condensed Milk.—A writer in the *Sanitary Record* has it on good authority that at the present time a vegetable article is being largely imported and bought by certain milk manufacturers for the purpose of adulterating their wares. The adulterant is known commercially as the "tiger nut," and has the appearance of a rhizome, is no larger than the last joint of the little finger, and resembles a diminutive root artichoke. It is not unpleasant to taste. The flavor being strongly suggestive of condensed milk.

MISCELLANY.

—The *Journal of Medicine and Science* says it is not always the girl who gets in the first laps who wins in the matrimonial race.

—Bienwald has arrested the hemorrhage of a small wound on the face of a hemophilic by the application of freshly drawn blood from a healthy woman.

—Schelling reports eight cases with symptoms of poisoning following the injection of iodoform glycerin, which he rightly calls glycerin-intoxication.

—The Prince of Wales was unanimously elected an honorary fellow of the Royal College of Physicians, of London, at a meeting held a short time ago.

—Tuffier (*Boston Med. and Surg. Jour.* April 24) reports a case of total extirpation of the bladder, for an extensive tumor of that organ, followed by recovery.

—A weak solution of cyanide of potassium will remove ink stains from the hands or linen, but it is an active poison if taken internally in any quantity.

—The Governor of Indiana has decided to "let no consumptive die in the Indiana prison at Michigan City, if it is possible to pardon him."

—By the death of the Duke of Aumale, May 7, the Institute of France comes into possession of the Chateau of Chantilly with its great collections, a bequest valued at $8,000,000.

—Immediate relief is experienced from the bite of an insect, mosquito, etc., if the spot is rubbed with an ordinary menthol pencil, or, better still, painted with a solution of menthol in sulph. ether, 1 to 10.

—The full bench of the Supreme Court of Massachusetts recently held that it is actionable for a hospital to perform an autopsy on the dead body of a child without the father's consent.

—A medal, to be known as the Nicholas Senn Prize Medal, will be awarded at the annual meeting, in 1898, to that member of the American Medical Association who shall present the best essay upon some surgical subject.

—According to the St. Elizabeth hospital reports for April, 1897, "eucaine, the new local anæsthetic, has been shown to be in no wise the equal of cocaine, and the hopes that it would displace cocaine have vanished."

—Mustard pencils (crayons sinapismes) have followed the menthol pencils in Germany. They are recommended to produce counter irritation by rubbing behind the ear in face-ache, and on any affected part for rheumatism.

—*Wien Klin. Woch.*, May 27, reports radical operation on a four-hour-old infant with hydrocephalus for a cerebral hernia into a tumor extending down the back as large as half the head. Prompt recovery.

—It is reported that the Princess of Wales recently tried the Kneipp cure at Woerishofen, but that one morning's walk in the wet grass resulted in such a cold that the treatment had to be abandoned.

—The natives of a village about fifty miles from Mexico have taken a genuine Indian method of stopping the spread of smallpox, which appeared among them. The first man to take the disease was beaten to death, and they set fire to the house.

—Dr. H. L. Hastings declares (*Jour. of Med. and Science*), "women go with their necks bare, and men keep theirs swathed and bandaged, and ten women have sweet voices to one man. A man's voice should be as pure as a woman's. Why is it not? He is choked and shaved."

—The virulence of scarlet fever may be mitigated by large doses of carbolic acid frequently repeated, and it is said that any person taking scarlet fever from a patient who has been under this treatment will invariably have the disease in a milder form.

—A society has been organized in the University of Chicago, the members of which will bequeath their brains to the society, as well as write out truthful, conscientious, and, so far as possible, unbiasted history of their mental processes from the beginning to the end of their lives.

—A physician who has just returned from a visit to Persia says that the Persians still believe that human tears are a remedy for certain chronic diseases. At every funeral the bottling of mourners' tears is one of the chief features of the ceremony.

—It now costs $10 to spit in a street car or public building under government control in the District of Columbia. For the former offense a California millionaire was recently sentenced to twenty-four hours' imprisonment in the county jail at San Francisco.

—In *La Sémaine Médical*, Lepine, of Lyons, reports still another case of diabetic coma treated with success by two drachms of chlorid of sodium and two and a half drachms of bicarbonate of sodium in one quart of sterilized water.

—In cases of long illness and repose in bed, the muscles become relaxed and the capacity of the lungs diminished. W. M. Kerning (*St. P. Med. Woch*, July 17) reports thirty-five such cases in which, while the lungs were normal, there was dullness on precussion.

—Senn declares that it is best to postpone passive motion in the child from eight to twenty-one days after fractures, and in the adult for three or four weeks. By securing rest for the fractured bone we diminish as far as possible the amount of exuberant callus.

—The Victoria Diamond Jubilee Association, of Chicago, has raised $7,000, to be distributed among Chicago hospitals. St. Luke's Hospital will receive $3,000; the Presbyterian Hospital, $3,000; the Mary Thompson Hospital, $500; and the Maternity Hospital, $500. The association asks that the hospitals name the bed, room or ward thus established in honor of Queen Victoria.

—As a memorial of the Queen's Diamond Jubilee the Americans residing in England have endowed a bed in perpetuity in each of the five leading London hospitals, each bed being endowed with the sum of £1,000. The beds will be especially for the use of Americans, but other patients may be received if all the Americans are well.

—Prof. Schooling, in a recent paper before the Royal Statistical Society, of London, says that there are eight principal causes of insanity, and the percentage of each as regards every 100 of lunatics as follows: Drink, 33.6; domestic troubles, 15.1; mental anxiety, 13.4; old age, 13.2; adverse circumstances, 13; accidents, 6.5; religious excitement, 4; love affairs, 3.2.

—At a late scientific congress at Strassburg, it was reported that of 66 persons who had died suddenly, a faithful post-mortem showed that only 2 of them died of heart disease, and that 9 out of the 66 died of apoplexy, and 46 died of lung affection, generally congestion, in which the lungs were found so full of blood that they could not work.

—Hugh T. Patrick, of Chicago, maintains that he has knocked out the Bryson symptom in exophthalmic goitre, showing by a study of forty cases that the diminished chest expansion frequently found in this disease is in no sense pathognomonic, but is simply an expression of the general myelasthenia which he claims is always present therein.

—A medical student has just graduated in Warsaw seventy-five years old. He commenced his course in 1843, but was forced to suspend it for lack of funds, and became a teacher for twenty years before he was able to return and resume it. He had partially completed his course when he became involved in the political uprising in Poland in 1863, and was sent to Siberia, where he worked in the mines for thirty-two years, when he was pardoned and returned to Warsaw to graduate at last.

—The new school for children with tinea, favus, etc., at Paris, connected with the hospital St. Louis, is just completed at an expense of 1,500,000 francs. The capacity is 270 residents and 280 partial residents, with a ward for the sick. There are two buildings, one for the children with tinea tonsurans, and the other for favus and tinea areata. The *Progres Médical* doubts the wisdom of allowing any of the children to go home at all, for fear of imparting the disease to others in the family.

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SCOTT & BOWNE, NEW YORK

TEN YEARS "IN WATER."

BY C. S. COLLINS, M.D.

MEMBER OF NEW HAMPSHIRE STATE BOARD OF HEALTH; MEMBER OF AMERICAN PUBLIC HEALTH ASSOCIATION; MEMBER OF BOSTON MEDICAL SOCIETY, ETC., ETC.

The writer has been teaching the gospel of self preservation for a decade.

Literally he has passed the whole of that history-making epoch "in water,"—not common, wet water that washes but cleanses not; not the distilled and therefore dead essence of filthy sewage-cursed rivers or ponds, nor even water from the mountain brook, laden with extracts of dead and dying vegetation, but "in a spring" of sparkling water, old as the eternal hills, pure as the waters of life.

How could one remain so long "in water" without suffering inconvenience, you inquire. Only the rare excellence of the water and the bull-dog pluck of the writer have enabled him to perform this feat amid the despair of hundreds "in water" who could no longer keep their heads above it.

What an age of history-making, that decade! What bright cheering memories come in to light it up! The shades of many a dusky warrior who pitched his wigwam near by, that he might drink health from its rocky depths—of Stark, Greeley, old patrons, by the way, and a host of other habitues of the unknown bourne come flitting past the writer as he pays his tribute, not to the bridge that has carried him safely, but to the water that has not overwhelmed him.

Ten years in water! Not as the reader begins to mistrust, actually in water, but only in the business, as one would say "in oil," "in wheat," or "in chips," as the gambler puts it. Enough in it, however, to learn some very practical lessons.

The first is, that American physicians have much to learn about so simple and yet so potent an ally as the American waters. Were the writer to enlarge upon this topic, it would monopolize this article, but its correctness would be demonstrated.

The second lesson is, that physicians spend too much time in everlastingly compounding. Every drug is of itself a compound, formed by a master hand for some useful purpose. Advanced therapy teaches that this single remedy has a special, well-defined field of action, and is only hampered in its work by the addition of other compounds. So in the use of water. Nature has made of it a single remedy composed of active curative agents, arranged no man knows how, for the use of man.

Any modification of the compound disturbs the action. In all the world no two waters are precisely alike chemically, and it is proper to say, therapeutically. This is why it has never been possible to imitate any natural water. The ultimate part of any analysis has never been up to the 100 per cent. Clinical experience demonstrates the fallacy of all the claims of imitators.

During ten years "in water," the writer has witnessed the rise and fall of many a tablet and concoction said to contain, for instance, lithia in "definite proportions," simply because lithia, *per se*, after being separated from its native elements in which it formed a natural compound, is of no special value as a medicine. It is only when we find it in its natural solution, blended in the "unexplored laboratory" with other bases, that it yields up its richest blessings to afflicted mortals.

This is not the time for scientific data, so the numerous authorities upon this subject will not be quoted. The thoughts uppermost in the mind of the writer relate to the incidents of the decade under review.

The tradition of the "medicine man," the history dating back to the days of General John Stark and Mollie, the wonderful work wrought by the water under the observation of the writer for fifteen years before the epoch which opened in 1887 with the test by learned chemists, the discovery of its remarkable contents, the exploiting of a little company by a half dozen physicians who knew its clinical value, the instant success, the reorganization on a large scale, the rapid strides in popular favor, the greatest and grandest work in the history of spring waters, all these and the blessings of untold thousands who have found renewed health, have marked the decade of the "man in water" and crowned his humble efforts to give to the world what nature gives to him.

His dream was of a little spring in the old town of Londonderry, about which he believed his fellow doctors would like to learn, but to-day the realization is a world-famous water used in every club and hotel, and in thousands of families, because the doctors have called it good for the high liver, in every hospital, because of its remarkable purity and, the peculiar power it possesses of driving out uric acid.

The writer named this spring Londonderry Lithia, combining the town with one of its principal constituents, and expects to carry to his grave no greater honor than to have been intimately associated with every detail of its most remarkable history; of having devoted his life to the scattering of the knowledge of so great a boon; of having literally spent his days in Londonderry water.

In closing this skit, he acknowledges his deep gratitude to the entire faculty, through whose kindness only could the good name of Londonderry have been upheld and carried to greater fields of usefulness, and apologizes for the skeleton which could be padded and covered indefinitely, but not to the taste of the busy doctor, who is looking for concentrated goods.

ORIGINAL ARTICLES.

EXPERIMENTAL RESEARCHES INTO THE CAUSE AND CURE OF DISEASE ALONG NEW LINES AND BY NEW METHODS.

By Prof. Elmer Gates, Washington, D. C.

PART I.

IN this paper it is my purpose to very briefly describe certain experimental results which seem to have an important bearing upon the whole question of health and disease, and also to outline a series of proposed further researches along similar lines, and to describe some of the new technical facilities which will make such a study possible.

These medical researches are the logical outcome of a much larger body of psychologic and psychurgic studies, and scientifically speaking, constitute an organic part of this larger system of investigation. Hence, it will be necessary to most briefly epitomize this larger subject before describing the more special applications which are to form the province of this paper.

On the Origin of These Studies.—Many years ago, while pursuing studies in chemistry and physics, I observed that during certain days or hours my mind worked with greater facility and originality than during certain other days and hours, and I was lead to inquire experimentally into the causes of such variations in the productive and acquisitive capacities of my mind. At four different intervals during the day for two years I recorded each of the measurable environmental conditions, such as changes in temperature, moisture, barometric pressure, electrostatic potential, quality and quantity of light, etc.; and, also, four times each day for two years, I recorded each measurable bodily condition, such as temperature, pulse, breathing, perspiration, analysis of excretions and secretions, diet, etc.; and, also, four times each day for two years, I recorded all of my mental activities, and especially noted the times when the acquisitive and creative mental functionings were dominant and productive of best results—I noted also the times when my moods were depressed or exhilarated. A study of these records disclosed the fact that the times of exuberance and good mentation were synchronous with the times when certain of these bodily and environmental conditions were present or dominant in an unusual degree; and that the times of depression and lack of originality and intellectual power correspond with the absence of these conditions and with the simultaneous presence of certain other conditions.

I practiced those conditions which promoted favorable mentation, and avoided those other conditions which obstructed originality and intellectual power and which tended to cause katabolic moods, and the result was the discovery of an art of promoting desirable intellectual and emotive functionings, and of avoiding the undesirable functionings, which results constituted the discovery of an art of mentation which enabled me to increase my mental capacity, and to augment the quantity and quality of my originative work in invention and research. It is not my purpose now to describe these experiments or this art of mentation, which descriptions will be given in a forthcoming volume, but to indicate an important conclusion; namely, that our mental life in all its acquisitive and productive capacities is not merely directly influenced by every environmental and bodily condition, but that our mental powers and processes are the results of a functional interaction between the organism of the individual human being and the larger organism of the cosmical environment. That is, mentation is the result of two factors; first, the activities of the animal organism, and, second, the activities of the cosmic organism. The relation between the two is functional. The significance of this will be seen when, later on, it will be shown that all physiological functionings are psychologic in their character, and that the difference between an inanimate and an animate body consists in the fact that the animate body possesses Mind. The human organism is not only materially and dynamically part of the Universe, but, as these experiments show, it is psychologically part of the whole.

PSYCHOLOGY AND MEDICINE.

Early Applications of the Art of Mentation.—In applying this art to myself for the promotion of my researches, I first made a classified synopsis of every verified datum from all of the sciences which had any bearing upon the broad question of the study of the relations between body, mind and environment, and then, under the previously determined bodily and environmental conditions which were found favorable to productive mentation, I passed each such datum understandingly through my mind, and continued doing so, over and over again, several hours each day for some weeks, believing that by so doing I would not only render each of these data equally vivid in my apperceptive consciousness, but, that I would also by this repeated re-functioning of certain groups of brain-structures promote the growth and associative activity and elaborative processes of these structures and thus bring about superior mentative conditions more highly favorable to originative ideation and invention. Having been told by a critical observer of my work that there existed no proof that mental activity leaves any chemical or anatomical changes in the brain, I at once proceeded to experimentally determine the facts in the case, as follows:

As has often been described in public print, I conceived the idea of giving one group of animals an excessive training in the use of some one definite mental function, and of depriving another group of animals, of same age and species, of the opportunity to use this same mental function, and then, after a year of such deprivation and training, to kill both groups of animals and contrast their brains, both chemically and microscopically, to see if in those cortical areas, where that function is located, there would be any structural differences. I found that in the seeing-areas of the

cortex of an animal which had been confined for one year in a darkened room, there was no further appreciable development of brain-cells than was to be found in an animal of the same species at the moment of birth; and that in an animal of the same species, that for the first year of its life, had been trained in the extraordinary use of the seeing-functions, there was a far greater number of brain-cells than were to be found in an untrained animal of the same age and species that had not been deprived of light, and these brain-cells were larger and more complex. By this special process of mind-training, which it is the purpose of a special volume to describe, I succeeded, not merely in giving that animal more brain-cells in that part of its brain than any individual of that species had ever before had, but I also gave it more mind, in that particular direction, than any member of that species had ever before possessed. Similar trainings with other functions corroborated these conclusions, and the experiments teach what is the functional localization in the brain of any mental faculty and demonstrate that each conscious mental experience creates in some part of the brain a definite chemical change and structural embodiment of that experience, the refunctioning of that structure being essential to the remembering of that experience. This led to the beginning of an art of brain-building for the purposes of embodying more mind. Inasmuch as mind creates every science and art and constitutes the basis of all effort and of all enjoyment and suffering, it follows that to secure more mind becomes a fundamental opportunity and duty; and it follows that the animal organism is nothing more nor less than the mechanism for the manifestation of mind, and that evolution is a process of mind—embodiment—the embodiment being created by the mind's own activities. Quite recently I succeeded in showing that the same process is applicable to unicellular organisms. The simplest cell is capable of feeling a stimulus and of adapting acts to ends. Only Mind can feel and make such adaptive reactions. A cell remembers its experiences, and only Mind can remember. An inanimate piece of gelatine does not feel a stimulus and remember the meaning of such an experience and adapt acts to ends with reference to such a memory; but a piece of protoplasm can do these things, and therefore it is animate. It follows that Life is Mind, and that the vital or physiologic processes are simply psychologic processes. When unicellular organisms are caused to perform different mental activities correspondingly different structures arise in these cells; that is, if one group of cells is caused to feel and respond to some stimulus, and if another group of the same species of cells is caused to feel and respond to a different stimulus, and if these activities are kept up in both groups for several months, there will arise structural differences between these two groups of cells which correspond to the differences between their mentative activities. Even in these physiologic units it is the Mind which creates organic structure and regulates the metabolism. As is well known, all the organs of the human body are made up of cells, and each cell, as is shown by the above experiments, has its own mental life, and it is this mental functioning which constitutes its vitality. The conclusion is, that the physiological processes are explicable only as psychologic functionings. These experiments belong to the domain of psychologic biology, but these results have a deep medical meaning, namely, that the mind-activities create and control organic structures and the metabolisms upon which all organic changes depend. An animal is a mind-organism. The cells out of which an animal is built are mind-organisms, and the duties of each cell are duties that require mind for their performance. A cell cannot perform its functions in the animal economy except in so far as it is capable of *feeling* stimuli and in so far as it is capable of *adapting acts to ends*. To change the mental characteristics of a cell is to alter its physiologic meaning in the animal economy.

These experiments show the intimate connection between mind and cellular metabolism, and between the cortex of the animal brain and the rest of the animal body. Destroy some part of the brain and a corresponding part of the body must suffer. Improve some part of the brain and some part of the body will be benefited.

The meaning of this section is this: If mind-activities create chemical and anatomical changes in the cells and tissues of the animal body, it follows that all physiologic processes of health and disease are psychologic processes, and that the only way to inhibit, accelerate, or change these processes is to resort to methods of properly altering the psychologic processes, not merely of the cortex alone, but of each and all of the cells in each and all of the organs of the animal body. Of this later.

Later Applications of the Art of Mentation.—The experiments described in the foregoing section enabled me to improve the art of mentation, and then I applied the same art to myself in the further study of the relations subsisting between the body, mind and environment, and I was lucky enough to still a few more methods of studying the Mind. In the first place, the reader will remember, I discovered the art of promoting mentation by a proper regulation of the bodily and environmental conditions, and this led to the conclusion that the Mind of the human being is functionally connected with the Cosmic Whole, and that the human being is an organ in a Larger Organism. Then I applied this mentative art to myself in the further study of Mind, and discovered another method of studying the mind, namely, by causing animals to use some one mental function in excess, and by depriving other animals of the same age and breed of the opportunity to use that particular faculty, and then by contrasting their brains, I found that mind-activities create brain-structures; and that each kind of mind-activities create in some definite part of the brain their own kind of structures. I found also that in cells the mind creates structural changes and concluded that the cellular functions in the human body are psychologic functions.

A further application of the same art to myself, as above stated, led to further results, which I will briefly indicate.

The experimental variation of the environmental conditions, one at a time, and of the structures of an organism, one structure at a time, to see what effects such variations have upon the mental activities of all kinds of living creatures, constitutes what I have called Biologic Psychology. By variation of environmental conditions I mean such as those of temperature, moisture, barometric pressure, light, foods, etc. By organic structural variations, I do not mean those produced by mutilations and vivisections, but those which I produced by rapid processes of evolution and retrogression by a special method of selective propagation, etc., which I need not here describe. As new anatomic structures arose or disappeared in the organism, I noted the mental activities which simultaneously arose and disappeared. Thus my experiments in biologic psychology proved that every variation in environmental and structural conditions produces in all organisms, from the lowest to the highest, definite variations in the mental activities. A separate volume will describe these experiments, and at present it is my purpose to do no more than to indicate the conclusions that mental activities are causatively related to environmental and bodily structures and forces, and that every variation in any one of the structures or forces of the environment produces an inevitable variation of a definite kind in each one of the mental functions; and, also, that each variation in the bodily structures or forces produces a definite variation in each one of the mental functions. The relation between the animal structures and environmental conditions and the resulting mentation in any given organism is causative and quantitative. I have done much work in this domain, with new instruments and methods, and am convinced that when once these researches have been completed we will be able to predict the precise mental change which will result from any given environmental or bodily change. And the mind is not transcendently above these changes—it cannot function independent of structure. A vacuum cannot mentate—only a materially organized being can mentate, and such a being has its mentation causatively related to its structures and its physical environment. The medical aspect of these conclusions is obvious. By a proper regulation of the environmental forces and bodily structures the mind-activities of the cells of an animal body can be appropriately modified, and so can that *concensus* of the psychic activities of all of the cells of the body called the personal mind of the animal. Chemicals are environmental conditions; so are medicines and foods and radiant energy, and all of these affect the minds of the cells of which the human being is composed and thus directly change the physiologic processes by changing the constitutive psychologic activities of the cells.

Another line of work I have called Subjective Biologic Psychology. It consists of a variation of environmental and bodily conditions, one at a time, to determine the concomitant changes which occur in the consciousness of the pupil or subject upon which the experiments are made—changes known only to the pupil himself as he introspectively views his own conscious states. He thus learns, in the terms of his own conscious states, how each environmental variation and bodily condition affects his mind, and through the changes in his "physiologic" processes he learns how these environmental and bodily changes affect the minds of the cells of which he is composed. By the state of his mood and by the changes which take place in his consciousness, he learns to know what environmental and bodily variations have occurred. I allude not so much to the sanatory value of such an experience, as to the fact that it proves the organic connection of the mind with the Cosmos—that mentation, that is, vitality, and consequently all there is of health and disease, is a product of mind-activity as influenced by environmental and bodily conditions, and that when once we know the precise effects of each environmental and bodily condition on the mind we may utilize such conditions to fundamentally regulate the psychologic activities of the cells of the organs of the animal body, and thus promote health and cure disease by controlling directly that which constitutes life itself, namely, the psychic activities of protoplasm.

Still another line of research arose out of the application of the art of mentation to myself: namely, what I have called Sociologic Psychology, in which environmental conditions and the social anatomy of social groups of creatures are varied to determine what are concomitant changes in the group-mentation of these colonies or societies. The group-anatomy of an ant-colony, *e. g.*, is varied if they are supplied with slaves, or if the queen be removed, or if a bee-hive be deprived of its workers, etc. A social group of creatures, like a herd or tribe or mob, have a mental activity different from that of the individuals which compose it, and that is partly what I mean by group-mentation. Its dim beginnings are seen in the *esprit de corps*, in the class spirit of a college, in the enthusiasm of an audience, in social belligerent revolutions, etc. I can show that in every variation of the social anatomy of any group of people or animals, there occurs a corresponding variation in their group-mentation, which also affects the mentation of the individuals composing that group; and that every environmental change affects the group mentation. Here are the dim beginnings of a higher hygiene and social science; and also the germ of an important new principle in the attainment of highest health and in the cure of disease—social or group-mentation can aid in effecting desired changes in the individual mind, and these changes in the individual mind mean physiologic changes.

To briefly recapitulate: My first method of research showed the functional relation between the productive capacities of the mind along lines of invention and discovery, and the bodily and environmental conditions, thus disclosing the fact that the highest forms of human functioning, that is, of a human normal life, are intimately and interactively connected with the functioning of the

Cosmic Unit; and the three other methods of research, just described, also show the direct functional connection between the mind of an animal organism and all the rest of the universe in which that animal exists; so intimate indeed is that connection that every separate variation in kind or degree of each condition of the environment or of each structure of the individual or social organism produces a definite change in the mentation of the individual or of the group. Inasmuch as physiology consists of the psychologic activities of the cellular units of the animal body it follows that by properly varying the environmental and bodily conditions we can, if we know how, produce such variations in the mental activities of the cells of the animal body as to promote health and cure disease—because all physiologic processes, whether normal or abnormal, are shown to be psychologic processes of the cells which constitute the organs of that body. Biologic Psychology, Subjective Biologic Psychology and Sociologic Psychology comprise three great scientific domains wherein we can study, by new methods, the specific mental changes effected in organisms when we change their environmental and their bodily conditions or structures; and the systematic study of health and disease along these lines promises to inaugurate an epoch in scientific sanitation and cure.

But I was led to the recognition of still three other domains in experimental psychology, and these three branches of research are exactly the reverse of the three sciences just described. In the three sciences just defined the environmental and bodily forces and structures were varied, one at a time, in order to see what were the corresponding changes in the mentations of the animals experimented upon; but in the three branches now to be described just the obverse is done, namely, the mental activities of animals are varied, one at a time, in order to see what are the corresponding changes in the structures of the organisms of these animals and what the changes in their environments. The first of these three sciences, Psychologic Biology, consists in varying the mental activities of animals, that is, it consists in causing these animals to vary their own mental activities in order to see what corresponding changes are effected in their organisms and in their environments. The experiments upon brain-building in animals belongs to this science. As a separate volume will be devoted to this subject I do not propose at present to describe the experimental evidence upon which the conclusions growing out of my work in this line are based.

Suffice it to say, the evidence is complete which demonstrates that every mental activity creates a definite chemical change and a definite anatomical structure in the animal which exercises that mental activity, and that this is the *modus operandi* of animal growth and evolution, and that by this method more mind can be embodied *ad libitum*.

The evidence is complete which shows that every mentation also produces a definite effect upon the environment of the animal which does the mentating.

Action and reaction are equal. Force cannot come from nothing. Mentation is a mode of energy, and the organism of the animal cannot create the energy of life out of nothing, but must receive it from the Great Reservoir. But the conclusion that every mentation affects the environment is based upon direct testimony and quantitative measurement. Vary the mental activities of an unicellular organism and you will vary its structures, and the same is true of a multicellular dog or man. Mind underlies organic phenomena, and life is mind, and mind-activity is the cause of evolution, and mind-embodiment is the goal.

Pathology is abnormal cellular mentation. Disease in the liver will be cured as soon as the liver-cells mentate normally. Normal cellular mentation means normal metabolism, it means anabolism; whilst abnormal cellular mentation means katabolism and toxabolism. Cause the psychologic activities of cells in an organ to be normal and the mind-activity in these cells will create proper structures in the cells and proper metabolisms and nutritive changes. Psychologic biology proves that mind governs organic tissue and physiologic function because it creates these things and constitutes their life. To learn to properly regulate each of the mental functions means to become king in your own conscious domain.

Subjective Psychologic Biology studies mind by causing the pupil who is experimented upon to vary his own mental states, one at a time, so that he may determine the relation between these states, as they are known to him in his own consciousness, and the corresponding bodily and environmental changes which they produce. He will find that every mental state produced a definite effect upon every excretion and secretion and bodily structure, and then he will know by experience how to produce those conditions which promote health and cure specific diseased conditions. Thus, as I shall show later on, the mind of a human organism can by an effort of the will, properly directed, produce measurable changes in the chemistry of the secretions and excretions, in the vaso-motor blood supply to areas and organs, and in the temperature of selected areas of the body, and so on. All of this goes to prove that the mind has a direct effect upon the functioning of the cells which compose an organ, and that if we can learn how to properly train and use the mind we can produce definite effects upon any physiologic function.

Psychologic Biology studies mind by varying the mental activities of groups of individuals in order to see what are the concomitant changes in the group-anatomy and in their environment. Out of this will arise a higher hygiene and sanitation, and an important principle for the promotion of health.

The three sciences just described vary mental activities to see what changes are thereby effected in the organisms of creatures and in their environments. These sciences prove that mind qualitatively and quantitatively affects organic structure and environment—that mind builds the animal body and also builds the cells out of which that body is built; and also controls the chemical

changes which constitute the metabolism of these cells. It definitely offers experimental and irrefutable evidence that the life of a cell consists solely of its mental activities, aud that to embody more mind in a cell or animal is to embody more health and life.

These six sciences of mind have not been thoroughly worked. Far from it. The gateways to these wonderful domains have indeed been opened, but that is all. Mind creates every science and every art, and therefore the science of mind—Psychology—is the Science of the sciences; and therefore the art of using the mind and the art of getting more mind—Psychurgy—is the Art of arts. Mind is life. Life is not something different from mind. The life of a cell is its mind. The activities of a cell are psychologic activities, and therefore the regulation of the psychologic activities of cells and of multicells is the basis of the long looked-for fundamental law of cure. Therein lies the key to the mystery of disease and pain and evil, and therein, also, lies the Ariadne's clue to health and happiness and success.

I think no impartial mind can review with me the evidence upon which these conclusions are based and doubt for a moment that life and vitality and physiologic processes are solely mental processes. If so, then we are in sight of the Law of Health and Disease and Crime, and we see it not by faith or through mysticism and symbolism, but through the medium of verified facts which are congruous with the body of scientific knowledge, and the study of this law comes within the province of strictest scientific research. If we can know how to regulate mind-processes then we can cure disease—all disease. There are, as shown above, two great methods of varying and regulating the mind in an organism—first, by varying the environmental conditions and the bodily conditions of the organism and thus bring about modifications of the mental activities; and second, by causing the organism to voluntarily vary its own mental activities and thus change its bodily structures and chemisms and its environment.

Now I have done far too much work in each of these domains to attempt to give even an epitome of the experiments. I reserve such a description for several special volumes to be published sooner or later, and for the present I shall limit myself to an enunciation of the principles involved. I am rather outlining a proposed series of researches looking towards the cure of disease and crime, than attempting to describe what I have already done in these directions. My purpose heretofore in my life has been the discovery of the laws of mental action and the application of these laws to education, moral training, and to the art of properly using the mind in discovery and invention. Only during the past several years have I clearly found my mind outlining for itself the study of health and disease along these new lines which have as their standpoint the consideration of physiologic processes as fundamentally psychologic processes, and for the method, the direct regulation and control of the psychologic activities of the cells which compose the animal body. I do not mean the medication of the cell, but the acceleration and the retardation and modification of the mind-processes of the cells of the human body by means of any and all environmental conditions and forces, among which are chemicals, medicines, etc.; and by means of a direct training of the mind of the human being in the specific dirigation of each of the mental functions so as to learn how to use each conscious and subconscious process voluntarily for the production of known and definite effects upon the minds of the cells which compose an organ, so as to alter their likes and dislikes and other mental activities for specific purposes.

I propose, as will be hereafter explained, to study the effects of small doses of medicines upon unicellular organisms, to see how each different medicine alters the psychologic activities of these cells, and how, through this psychologic effect, the secretions and excretions of these cells are modified. When once I understand the action of various medicines upon simple protoplasmic bodies, then I will be better prepared to study the action of medicines upon the multicellular organism of an animal. Of course, always, when I say "animal" I mean to include man. I want this knowledge, not because I believe medicines can cure disease, but because I have demonstrated that medicines can alter the psychologic activities and characteristics of cells, and all the physiologic functions of a man consist of nothing else than functionings of groups of cells, and the life and functioning of each cell in such a group is definitely and solely a psychologic process. This is a new clue to experimental therapeutics, and I believe a much better one than has ever hitherto been pointed out. The law of similars, the law of contraries, the law of identities, the good there is in massage, in hydrotherapy, in electro-therapy, in metallo-therapy, in mind-cure, in faith-cure, in exercise, in dieting, in amusement, and so on through an almost endless series of pathies and isms with their countless series of applications, external and internal, as far as they affect amelioration or cure, are partial aspects of a more fundamental truth or law than either or all of them have conceived, and may we not expect to find this fundamental law in the study of the mind as manifested in cells and multicells, nay, is it not quite demonstrated that this law must be related to the regulation of the psychologic activities of the protoplasmic units of the animal body? If life and physiologic functionings can be shown to be a question of cellular psychology, then therein lies the hitherto unformulated law of cure!

The question resolves itself to one of regulating and controlling the mind-activities in cells; and this can be done, as far as science knows, in the ways described in the above-mentioned six psychologic sciences. And such control of cell life is not a matter of faith and belief, but of knowledge and technical appliances, and by following rules quantitative in their character. A scientific study needs to be made of the precise effects of each environmental condition upon each kind of mental function in a single cell or in an animal, and then we will know just how to apply these conditions to the cure of disease. Likewise, a

scientific study needs to be made of the precise effect which each form of intellection and emotion and sensation has upon a cell's psychic activities, both as a single isolated cell and as a cell in an animal body, and then a study of how best to train a patient to produce these mental conditions and how to direct them to the right organ or spot; of these things I will later on give examples. The fundamental law for the cure of disease and crime is a psychologic law; and the theater of its action is within the protoplasm of a cell; and the force upon which the action must be made is that of the psychologic activity of the cell; and the means by which it must be made is by a regulation of the physical and psychological conditions of the body and of the physical and psychological conditions of the environment. The only way to discover the precise applications of this law is by experimental determinations of the effects of definite physical conditions of body and environment upon the personal mind and upon the cellular minds of the patient; and also to determine the definite effects of each form of mental activity of the personal mind and of the cellular minds of the patient upon the physical conditions of the body of that patient and of his environment. Here lies one of the most glorious opportunities ever offered to the scientific investigator—who shall be privileged to carry it out to conclusions and results?

PSYCHURGY AND MEDICINE.

Out of the science of psychology there arises a corresponding art which I have called psychurgy. Psychurgy is the art of getting more mind and the art of most efficiently using or utilizing all of its possibilities. The first step in the art of mind-embodiment is that of brain-building; the next is that of education in special knowledges; and the next is that of moral training and the curing of immoralities—these three steps constitute the first great branch of psychurgy. The second branch relates to the arts of conscious, sub-conscious and cosmic mentation; and has for its purpose the discovery and the application of Truth. Of this second branch I shall say no more in this paper, except to state that the art of mentation is the primary method of these researches. In the fullest sense of the word organic evolution is a process of mind embodiment, and even in the Darwinian method of survival of fittest the creature which actually survives is the one in whom the processes of mentation are most perfect. It must be remembered that what has been called "physical" labor is in reality mental labor; even the contractility of the muscles by which so-called "physical" labor is accomplished is a psychologic process in the muscle-cells. To throw a shovelful of dirt just so far, and no farther, requires a mental co-ordination; and the process by which the muscle-cells feel the stimulus which causes them to contract at a certain speed and with a certain degree of energy is also a psychic activity. The animal which can most quickly detect danger or opportunity, and which can most quickly and perfectly adapt acts to ends is the animal which, other things being equal, always survives. The higher process of civilization differ not in kind, but only in degree, from the activities exhibited by a piece of protoplasm, and the method as well as the goal of human progress is the discovery and the application of truth by mentative processes. In the animal organism any given organ attains its full health and maturity only when it can normally exercise its functions, neither too little nor in excess, and any deviation from this normal exercise at once constitutes a pathologic condition. When any one organ increases in activity, and consequently in growth, it at once requires more blood and metabolism, and it follows that all other organs in that same organism must at once receive less blood and become less dominant in consciousness. That is, all of the organic functions in an animal organism become modified with reference to any other organ whose functioning becomes temporarily or permanently dominant. This is the law of functional correlation. Now the same is true in a higher sense when we consider man's organic relations to the sum total of living things upon the earth. All living things have differentiated out of the earth, and are materially and dynamically part of the earth; and as I have elsewhere shown, all living things are in psychologic functional connection. In proportion to the degree of mentation every living thing gives off electric waves and other kinds of waves, and these forms of radiant energy falling upon other living things at once modify their mental processes. This constitutes a physiologic oneness between all living things, so that no living thing can become mentally active without reciprocally affecting all other living things. In this larger cosmic organism each living thing is an organ, and its functional use in the achievement of progress for itself and others is the discovery of the truth about the things in the midst of which it lives, and the application of this truth to the amelioration of its conditions—that is, the discovery and application of truth is the normal purpose of the functioning of the individual, and in the largest and best sense, when such functioning becomes dominant in any one individual all human affairs begin to shape themselves with reference to such individual dominances. Only in the exercise of discovering and applying truth can man attain his highest health.

Brain-Building and the Cure of Disease.—In organizing a series of systematic researches into the nature and cure of disease, the first step, and in many respects the most fundamental one, consists of the study of brain-building as a method for securing the completest and fullest development of the organs of the animal body. There is abundant clinical evidence, well known to modern surgeons, which supports the view that every part of the body is in intimate nervous connection with certain definite parts of the brain and spinal cord; and it is well known that when these centers in the brain or cord become injured by lesions that the corresponding parts of the body at once begin to atrophy or become otherwise diseased. The rationale is this: If for the first time a muscle of the arm in an infant is moved consciously, so that the child feels the muscular sensation which is normal to such a movement, there at once takes

place a transmission of that muscular feeling through a nerve fibre to the cerebral cortex in the region of the fissure of Rolando, and the sensation produces a deposit of chemical matter in the cortex of this region, and that chemical accretion remains as a structural change in which the memory of that sensation is embodied. All of the muscular sensations derived from the muscles of the arms are enregistered in the arm-areas of the cortex, and out of this arises muscular skill and habit. As is well known, pressure upon these arm-areas temporarily destroys the power of the patient to use the arms in any familiar work, such as playing the piano: or buttoning the coat, or opening a watch, and all memory of the muscular movements of the arm ceases. If an ulcer destroy this portion of the brain the power to use the arms is permanently lost. As is well known, if the occipital portions of the cerebral-cortex in the region of the cuneus becomes destroyed, there is loss of sight, and if the temporal cortex of the cerebrum is destroyed there is loss of hearing, and so on. If destruction of cortical areas produces disease of corresponding organs may we not expect that strengthening and up-building of these areas will produce development and health in these organs? Furthermore, I have shown by experiments upon animals, and the experiments have been widely published, that systematic exercise of the sensations of touch, pressure, muscular feeling, warm sensations, cold sensations, etc., produce an enormous development of the cells of those parts of the cerebral-cortex which are connected with those parts of the body upon which the experiments are made, and that not only does that part of the brain grow larger, but the corresponding parts of the body become more highly developed.

Animals confined in darkness for a year or more after birth have a deficiency of brain-cells in the seeing-areas and the eyes are correspondingly weak and imperfect; the subsequent training of the eye-sight produces cellular development in the brain and corresponding development of the eye. Disease of the cortical area in such a dog soon destroys the eye. In an infant whose arm was torn off at birth by an unskillful obstetrician, there was of course no capacity to acquire sensation memories with that arm. The child died at eleven years of age, by accident, and an examination of its brain showed that the left arm-area of the cortex was deficient in brain-cells while its right arm-area contained a little more than the average number. Mr. K., sixty-eight years of age, had a left arm that had not grown in size since the fourteenth month of his life, owing to sequelæ from scarlet fever, and he had not moved any portion of the arm or hand during all these intervening years. I began by giving repeated sensation-memories of touch and pressure upon every portion of his arm and hand at regular intervals for six weeks, being careful to gradually increase his power to distinguish lighter and lighter touches and pressures. This practice built a great number of additional cells in the corresponding of this cortex. Then I caused him to discriminate the least distance between two points of touch upon all portions of his arm and hand, using the caliper æsthesiometer for the purpose. He gradually acquired increased power to distinguish as two touches points which were gradually brought closer and closer together. Having placed a weight upon an area of his arm, I found by experiment what was the least additional weight which he could detect.

In a similar manner I trained the temperature sensations of all parts of his arm and hand, using for the purpose small bags of thin rubber, filled with water at different temperatures. This training produced an additional number of brain-cells in the temperature areas of his cortex. In order to get muscular feeling I had to resort to a special method. I introduced a platinum probe beneath the skin, and insulated from the skin by means of a rubber coating upon all parts of the probe except the point, and applied an electric current to the nerve which ramified into any given muscle, and this caused the muscle to contract. He was unable to voluntarily move a single muscle in the arm. By this means I succeeded in giving him muscular feelings and in building in the arm-area of his brain a number of additional muscle-memory-cells. After several months of effort his arm had grown to a little more than three times its former size, and he could move each of the fingers and bend his arm at the elbow, and at this point I quit the experiment. Six years ago he died, and an examination of the arm-areas in the right cerebral-cortex revealed the existence of an enormous number of young and well-formed brain-cells. The existence of a greater number of cells in a cortical area permits of a greater amount of libero-motor discharges from the brain to the parts of the body therewith connected, and a vervous stimulus which comes from the brain to a peripheral organ regulates the vaso-motor dominances and metabolisms of those parts to which the stimuli are sent.

Those areas of the brain which are prevalent in a normal amount of cells cause a like deficiency in the development of some corresponding part of the body, and a normal bodily development is possible only when there is an equal development of all the cortical areas. An ataxic development of the cortex will cause an ataxic development of the body. The scope of this article will not permit the giving of more than one example under each case, but I desire to call further attention to the fact that the brain centers govern directly every part of the body and that if these brain centers are normal in their activity the corresponding bodily parts will be normal. As a matter of fact, the brain is in direct or indirect contact, by means of fibres, with all the cells of the body.

In order to determine the precise effect which the development of any particular part of the brain produces, it will be necessary to apply brain-building to animals in such a manner that a definite part of their brain can be builded by the exercise of a very definite class of mental activities and then to carefully note the effect produced on different parts of the body and particularly upon the excretions and secretions. Only after a complete series of such investigations have been made will it be possible to reduce to rule the art

of curing disease by the rebuilding of the brain. Such a series of researches would require at least five or six years of time and special facilities, but the importance of this line of work is co-extensive with the interests which the human race has in the subject of health and disease. It is my plan first to apply the method to single cells in order to determine the precise structures which the cellular activities create in the cells, so as to learn about functional localization in the cells, and so as to determine the character of the changes which the different cellular mental activities produce in their own protoplasm. When mind-building in cellular life has been thoroughly studied, we will be better prepared to study multi-cellular life.

The general conclusion to be derived from what I have said about brain-building, and from the experiment upon Mr. K., is that the law of cure must be a *psychologic* one.

Moral Training and Curing Immoralities.—In the highest sense an immoral memory is a mental disease. By means of intellection we acquire a knowledge of the outer world, that is, we acquire sensations, images, concepts, ideas, reasons and thoughts, by means of the intellectual processes. By this means we learn about things outside of ourselves, and inasmuch as these things affect us either for good or for bad we soon acquire emotional feeling with reference to the same, and this feeling may belong either to the love-emotions or to the æscetic emotions or to the moral emotions. Out of these good and bad feelings and emotions with reference to a given thing arise our likes and dislikes and our entire moral disposition. Every false image or wrong concept or untrue idea votes in every conclusion we make, and every immoral emotion directs our interests toward wrong channels. That is, immoral memories are processes of mind disembodiment, because they prevent a proper adaptation of acts to ends, and because they antagonize the discovery and application of truth. Every immoral memory and every wrong emotion is an obstruction to the embodiment of more mind, and hence from the largest ethical standpoint a man cannot be perfectly normal, that is, he cannot be perfectly healthful until he has eliminated from his mind all immoral emotions and memories.

My experiments upon the effect of the emotions upon the excretions and the secretions have been quite extensively published, but I will briefly epitomize the results which I obtained. Analyses of any of the excretions or secretions from a person who has been angry for half an hour shows the existence of certain ptomaines and catastates of a poisonous character, but these poisons are different in kind from those obtained from the secretions of a person who has been sad for a half hour, and so on with the different evil emotions. The irascible, the depressing, the malignant and the fearful emotions create poisons in every cell of the body and produce catabolism; while the good emotions augment the nutritive changes in every cell of the body and augment anabolism. Emotion exerts a profound effect upon the chemical changes which take place in the protoplasmic contents of cells. The emotions modify profoundly the changes in the vaso-motor circulation of the blood. Every physician has observed how quickly happiness and good news promote the digestion and the sleep and the general good appearance of a patient; and how quickly grief and bad prospects blanch the face and lower every vital function. The intimate connection between emotion and metabolism is obvious. But metabolism is simply another name for cellular mentation. As far as emotion is useful in the cure of disease, it is evident that its effect is upon the psychologic activities of the cells of the body.

A criminal personality may be considered to be a moral disease. The sexual pervert, the kleptomaniac, the child of vicious temper, the person without natural affection is an abnormal person in the sense that certain parts of the mind are either lacking or are functionally abnormal.

The process used at this institution to cure a criminal propensity may be instanced as a further proof that the fundamental law of cure is a psychologic one. The first step in curing a criminal consists in discovering by psychologic analysis the number of wrong sensation-memories and wrong image-memories and other wrong intellectual and emotive memories; and then by a process of brain-building to put into the same parts of the brain where the wrong memories are another series of good memory structures consisting of normal and scientifically acquired intellectual and emotive memories relating to the same objects and acts as those from which the wrong memories were acquired. This puts a large and dominant number of normal cells in the very areas where the evilly functioning cells were, and then these new structures are kept functionally active oftener each day than the evil ones can have a chance to be active, and the result is that the new structures not merely become dominant anatomically and dynamically but also psychologically. The child's disposition is remade—the child is psychologically reborn. It has acquired new likes, and the wrong which it previously liked it now neither likes nor dislikes. A criminal propensity is a dominancy of evil memory structures, and as soon as a larger number of morally functioning structures are put in the same part of the brain there arises a new dominancy, and if this new dominancy is kept active it will take the blood away from the old structures and cause them to atrophy. The time will come when criminals will not be allowed to grow up as criminals, but the state will see to it that criminally inclined children are cured during early school years. This experiment again shows the law of cure to be a psychologic one, and it also shows that the psychologic effect must be made upon the psychic activities of the cells of which the human body is composed.

It will be desirable to more carefully explain what I mean by brain-building. When an incident cosmic stimulus such as light or sound or pressure affects a sensory nerve-ending there results a sense-impression upon that nerve-ending, but this sense-impression is not yet a sensation. Certain transformations of energy must first take place in the nerve-ending, so that out

of the sense-impression there arises a kind of transmissive force, called nervous force, which travels from that nerve-ending along a nerve fiber, stopping and being further transformed at many intermediate sub-cerebral stations, it finally reaches the cortex and produces at or near the termination of the fibrous track a series of chemical and electrical changes; and when these changes have been effected there results a conscious sensation. This conscious experience is embodied in the structure which has just been formed, and the refunctioning of that structure is the essential basis of memory. The refunctioning of such a structure causes it to send out from itself electric and other forms of waves through fibers and brain tissue to adjacent cells, thus stimulating them into associative activity. All sensory nerves have endings in the cortex, and each class of sensory nerves have assigned to them a definite area of the brain's topography. The same is true of the feelings which come from the different internal organs of the body, but their functional locations have not yet been determined. The first step in brain-building consists in the acquirement of sensation memory-structures, and if a human being were born without any of the nine kinds of sensations that person would never know of the existence of an outside world The first step of mind-embodiment, the first revelation which Cosmos makes to human consciousness, is made by means of sensations; and if any of the sensory activities have not enregistered in their particular parts of the cortex the completest possible number of brain-cells, then that part of the brain will remain fallow and the corresponding part of the phenomena of the universe will not be functionally represented in that person's mind. The result will be a mind with some of its parts left out, that is, it will be ataxic. The second step consists in integrating the sensory units of consciousness into the next higher conscious element, that is, into images. The next step is to taxanomically integrate images into concepts; and the next step consists in relationing concepts with each other in order to arrive at ideas, and so on, through the stages of reasoning and the different orders of thinking. A large volume is required to describe the art of brain-building. The essential part of the process, from the curative standpoint, depends upon the capacity of the teacher to produce in the pupil a uniform enregistration of the different memories and also to omit from the general process no kinds of mentative memories. To properly develop any class of sensation memories, each sensation of that class should be repeated every day, and at the same hour each day, and for at least six succeeding days. And no sensation should be repeated oftener than any other one. The same is true of images, concepts, ideas, etc. A second important thing to be remembered is that every enregistration should be pleasurable. If the totality of our conscious experiences with any object or phenomenon are pleasurable then our state of mind toward that object will be one of liking or of agreeable æsthetic or moral feeling, and our affective state, which includes all of our experiences with that object, will be accompanied by emotional conditions which are wholly agreeable and life-promotive. Before I commenced my work upon the relations between the emotions and chemical changes in the cells, it was customary to call all of these changes of a nutritive or disruptive character by the name matabolism. Those changes, which are life-destroying and which resulted in a loss of tissue and energy, were called catabolism, while those changes which resulted in the gaining of strength and tissue were called anabolism. The corresponding products were called catastates and anastates. I discovered that depressing and evil emotions augment catabolism and produce catastates, and also other still more highly poisonous products which I called toxastates; and that the exhilarating and happy emotions augmented anabolism, and produced in addition to anastates another class of products which I called eunastates. Now if the affective state of the mind toward any object or phenomenon is devoid of a concomitant of unpleasurable sensations and evil emotions, the refunctioning of the memory-structure of that experience, either consciously or subconsciously, promotes anabolism in all the cells of the body; but the presence of any evil sensation-memories or emotion-memories produces catabolism.

We may compare life's memories to a garden in which have been planted both weeds and flowers; if we repeatedly water and fertilize the flowers and not the weeds, the time will soon come when the weeds will disappear. If we systematically dirigate into conscious activity the anabolic memories of any affective state, or group of such states, the structures in which these good memories are embodied will soon receive all the blood and growth and the adjacent evil structures will atrophy. I think it will be apparent that a normal life must be more than a merely intellectual life—it must be equally well developed in all of those tender emotions and æsthetic emotions and moral emotions which constitute the religious nature of the individual. Successful scientific research is as much a product of the moral nature as of the ratiocinative processes. As long as any one group of structures in the cerebral cortex, either of an intellectual or emotive character, have not been enregistered, the mind will be dystaxic and the health will be incomplete.

I will give one experiment to demonstrate the connection between brain-building and the functioning of the internal organs. I will premise by saying that each organ of the body is composed of cells which have their own mental activities, and that these mental activities differ in their characteristics from those of the cells of other organs in the same body, each group of cells having special capacities and special kinds of labor to perform for the common good of the organism in which they are social units. The cells of an organ must be capable of feeling a stimulus sent to them, and it must be remembered that only mind can feel; and these cells respond to this feeling by adaptive actions and perform certain results in accordance with the custom which has arisen out of their previous experiences—such

phenomena are mental phenomena, and the functioning of an organism may be described as the group-mentation of a society of cells. To demonstrate that such groups of cells can be educated and then deceived, and then re-educated, I made the following experiment: Two shepherd dogs were fed milk containing enough Annatto to render the milk just perceptibly yellow, and enough tartar emetic was put into the milk to give them nausea almost to vomiting. After several repetitions, although thirsty, they refused to drink the milk and the sight of it caused them to indulge in those well-known expressions which a dog makes at a nauseous object. In order to make a still more profound impression upon them I began to feed them milk in the dark, and while they were drinking the milk colored yellow and containing the emetic I turned on the light so that they might see what they had been drinking, and thus associate that color in the milk with the nausea which would immediately follow. Thereafter they refused to drink milk in the dark. Before describing the rest of the experiment I wish to remark, that by this process I had been giving to that part of the brain and solar plexus and other sub-cerebral centres, a series of memory-structures that were catabolic and which caused the affective state of the dog toward the milk to be accompanied by feelings of nausea whenever he saw the milk and by an emotion of dislike. To show that these memories have an intimate connection with the functioning of the stomach, I made still one more experiment. I began to give the dogs milk just about dusk, but without either coloring it or putting in it an emetic, and thus they were soon led to freely drink milk in the dark. I then gave them milk colored with Annatto, which substance has no action upon the dog, and while they were drinking the milk—they had become accustomed to it for several weeks—I turned on the lights so that they could see what they were drinking. Now this milk contained no emetic, but as soon as they saw its yellow color they immediately stopped drinking and began to vomit. The re-functioning of the unpleasant memory-structures acted directly upon the stomach of the dog in a manner similar to the emetic, that is, the stomach-centres of the brain had been educated to believe that yellow milk was nauseous. Every such catabolic memory interferes with normal digestion. About three weeks thereafter I again began to feed them milk in the daylight, and gradually colored it to a deeper and deeper yellow, but without putting in the emetic; and in four weeks' time I succeeded in getting the dogs to drink yellow milk, and because of a small amount of sugar that I placed in the milk that had been colored yellow they soon began to prefer it to milk not colored yellow; and by placing small amounts of emetic in the uncolored milk, I soon got them to dislike the normal milk as much as on a former occasion they had disliked the yellow milk.

Mrs. M. had been suffering for nine years from dyspepsia, consisting not so much of gastric inability as of improper assimilation. I gave her a systematic series of training in pleasurable odors and perfumes and tastes, and a systematic series of remembrances of pleasurable gustatory and other hunger-feelings and thirst-feelings, giving the training at the same hour each day every day for two months. The result was a complete restoration of her assimilative powers and a gain of twenty per cent. in weight—she had been very much emaciated—and of more than thirty per cent. in strength. The additional brain-cells which I thus placed in the cerebral areas of the gastro-intestinal tract caused the brain to send more and better stimuli to the digestive organs and thus bring about the cure of her disease. I am not a practitioner and I do not take patients for pay nor for any other purposes except for experimental research, neither do I repeat an experiment after I have once satisfied myself of the truth of the general result.

Mr. L. was unable to distinguish as small a color-difference with the left eye as with the right eye. By producing upon the eyeball and its supplementary integuments a series of systematic sense-impressions of the different kinds, and by giving him sensations upon that eye of many thousand tints, shades, and hues of color which he had never before consciously discriminated, and without trying to test his capacity to discriminate the differences less than those which he had previously failed to recognize, I was able in seven weeks to produce, by means of brain-building of the seeing areas, a greater power of discrimination in that eye than in the other one which was previously most acute.

The conclusion which I wish these experiments to emphasize is that the functioning of a bodily organ can be wholly changed, and its abnormal functioning cured by means of nervous stimuli sent to these organs from their corresponding brain areas, and that, therefore, the change must be effected by the action of the mind upon the psychic activities of the cells of the organ.

Dirigation.—By dirigation I mean the voluntary power of the individual to confine his consciousness exclusively to the feelings and sensations which may be noticeable in any selected part of the body, and by practice to send to those parts more blood, and to alter therein the lymphatic and thermic functions. If I confine my attention to my thumb and inhibit my attention from all other sensations and feelings in other parts of the body, and from all intellections and emotions which may tend to spontaneously arise in the mind, and if I thus continue to rivet my attention to my thumb, I soon will become aware of an *increased amount of feeling in that organ.* If this is continued for some minutes a sense of fullness and pressure arises, and a delicate thermo-electric thermometer will record the fact that the temperature in that thumb has risen a fraction of a degree centigrade higher than the temperature in the other thumb; and if a plethysmographic measurement be made of the volume of the thumb to which dirigation is made it will be found to have become larger than the other thumb.

I have elsewhere published an account of these experiments, but I will briefly repeat them. Into a glass vessel, wider at the bottom than at the top, I introduced my right arm and filled the vessel

with water and allowed the arm to rest in the liquid, without motion or any straining of the muscles. Without making the slightest movement I began to dirigate to the right arm. The vessel had previously been filled with water so that the addition of another drop would have caused it to overflow. The water was at the temperature of the arm. After eleven minutes' dirigation I succeeded in becoming conscious of nothing but the feeling of sensation in that arm, and shortly thereafter the water began to flow over the top of the vessel, and in twenty-one minutes six hundred grains of water had been displaced by the augmented volume of my arm. Then I dirigated to the other arm, forgetting all about the right arm. It took some time for me to lose consciousness of my right arm. Those parts of my brain in which the right-arm sensations were enregistered had become functionally active and filled with blood, and it took some time for the blood to leave those brain-areas and also for the blood and metabolism to cease their dominant functionings in my right arm. We may call this phenomenon *functional persistence.* That is, a functional dominancy tends to maintain itself. After some minutes of effort I succeeded in overcoming the functional inertia of my right arm and to get a functional dominancy in my left arm and in the corresponding brain areas. Now my left arm had previously been placed in a similar apparatus and after some further effort the water began to assume a lower level in the vessel in which the right arm was placed, showing that the right arm was shrinking in volume; and the water began to run out of the top of the left-hand vessel, showing that the left arm was augmenting in volume.

By placing a surface thermometer upon any part of my body I can in from five to twenty-five minutes raise the temperature of that part of the body by persistently dirigating to that part. I can also alter the character of the perspiration of that part, and by continuous dirigation to any one part of the body it can be caused to grow larger in size than the other corresponding part of the body.

Mrs. K., of Philadelphia, having previously been trained in the art of thus dirigating to any part of the body, was the subject of the next experiment. She had an almost entire absence of the mammary glands and by dirigating continuously for one hour each forenoon and one each afternoon to the left gland it became in fourteen weeks of a size more than four and a half times larger than the right. She then dirigated to the right gland and in nine weeks it became of the same size as the left.

Mr. F., in a similar manner, dirigated to his left arm, and to that part between the shoulder and elbow, and in four months it had increased 6 per cent. in its circumference, and the strength of the muscles in that arm had been greatly augmented. I tested my hand upon the dynamometer several times each day for six consecutive days so as to find the utmost power of my grip; then I dirigated to the muscles in my hand five or six times daily for two weeks, but without using my hand in any form of muscular exercise whatsoever, and at the end of that time the strength of my grip had been increased 16 per cent.

Mrs. S., afflicted with severe chronic constipation, had to have the stools mechanically removed every other day for over two years. Of course, all usual remedies had failed, including the various enemas and massage. I began by giving her sensation-memories of touch and temperature in that part of the rectum which lies below the sigmoid flexure. This was done by means of warm and cold water-sprays, which were gradually increased in coldness and warmth up to the point of giving pain, and the warm and cold sprays were rapidly alternated. This process created, in the corresponding parts of the brain, the sensation memory-structures of the sensations which I had succeeded in producing in this atonic part of her intestine, and the libero-motor discharges from those brain structures to the rectum enabled the brain to send more blood and metabolism to those parts; but the main object of this training was to enable her to get enough *feeling in those parts so that she could dirigate thereto.* She was then taught the art of dirigation and four times a day she dirigated to the rectum and in eleven weeks she was perfectly normal.

The next step in the art of dirigation consists in repeated practice so as to be able to get the fullest and completest feeling in any part in the *shortest possible time* and this should be practiced with reference to all parts of the body. This practice gives the pupil skill in willing the dirigation and it also gives the person a marvelous control over the body—the mind takes, as it were, conscious possession of parts over which it previously had but little governing power, and the health of every part of the body is augmented.

The next step in the practice of this art consists in securing a change of dirigation from one part in which the dominancy has already been established to some other part of the body, so that the full change may be completed as quickly as possible and completely as possible. This develops the power of the system to center all of its forces upon any one part and augments its capacity for correlation of functions. For example, after such a dirigation to a bodily area the sudden exposure of the body to a draft of cold air will be much more quickly followed by a vaso-motor sending of the blood to those parts so as to prevent chill.

A still further practice develops the power to differentiate the feeling which arises in the dirigated part and what was previously a simple sensation becomes a more complex state of feeling, that is, *several sensations* can be discriminated instead of one, and if the pupil dirigate to a particular one of these sensations a different result is obtained than if the dirigation be to some other one of these sensations, and at this stage arises a complex state in the art, requiring a small volume for its description.

It is well known that in the hypnotic subject the attention can be confined and directed in such a way to different parts of the body so as to render them insensible or to produce other interesting effects. But hypnotism produces evil results in

the brain and I think that the testimony of scientific experiment is such as to prove that hypnotism is nearly always dangerous and should be used only when it is a choice between two evils. One skilled in the art of dirigation can accomplish much more profound effects and without the danger of hypnotism. I first studied this matter in 1876 and made my most important experiments in this line about 1890, especially the experiments herein recorded. I have been able to show that by dirigation it is easy to produce an action similar to that produced by most drugs. Thus, it is very easy by dirigation to produce emesis and even sudoresis. A tribe of American Indians, whose name I have forgotten, can vomit at will. I had one patient who could produce in twenty minutes catharsis, and another who could in two minutes' time produce upon most of the surface of his body either pallor or blushing. There are many people who can shed tears at will. I simply call attention to these facts to show that in a scientific art of dirigation there lies a marvelous power over all of the functions of the body.

In connection with brain-building the art of dirigation opens an entirely new field for the cure of disease and the study of the subject is of imperative importance.

A systematic series of researches upon the effects of dirigation of different kinds to different parts of the body by persons properly trained, constitutes one of the lines of researches soon to be commenced in this laboratory. It will involve a careful psychologic measurement and a careful analyses of the excretions and secretions, so as to determine the precise effects of particular dirigations.

Medicine and Cellular Mentation.—An incidental line of research consists in studying the effect of medicines upon the psychologic activities of the individual cells which constitute the animal body. I do not mean on pathogenic germs in the body. This is a small part of the larger subject, described in the first part of this paper, which has for its object the experimental variation of environmental conditions to determine what effect these variations have upon the mentations of an organism. I have shown that mentation is the product of two factors, one of which is that of the organism and the other of which is that of the Environmental Whole, of which that organism is a part. I have shown that every variation in the physical conditions and forces of the environment and in the body produces a definite variation in the mental activity, and *vice versa*. Now one of the environmental conditions capable of affecting the mind of a cell is the presence of medicines and other chemicals. I do not allude to their chemical action upon the organism, nor to their food value, nor to their so-called drug-actions as astringents, tonics, etc., but to the *actions of these medicines upon the minds of the cells of the tissues of the body*. If the uni-cellular organism has for some time been watched under the microscope the observer will become acquainted with the habits of its life, and by experiment it can be learned what are its likes and dislikes, and what are the stimuli to which it responds, and what are the precise ways in which it responds to a given stimulus. By chemical methods we can also learn how the excretions of the cell vary under the influence of different mental activities. When to such a cell a small amount of medicine is given for a long time it will be found that its mental activities have been modified. Thus I can easily obtund its sensibilities in different ways by different narcotics and anæsthetics, and stimulate its activities by excitomotors, but such changes belong to the class of drug-actions and I do not in this paper refer to such an effect. But when I place in the liquid medium in which the cell lives most astonishingly minute doses of certain organic alkaloids—less than the one hundred millionth of a grain a gallon of water—I find that the mental activities of the cell undergo a slow change, the foods which it formerly liked it commences to reject, and the foods which it formerly refused it commences to eat, and stimuli have different effects upon it than formerly. Of this I have abundant experimental evidence. A careful study of the psychic effects of medicines upon uni-cellular organisms is what I propose to undertake before I commence to study the effects of medicines in small doses upon the psychologic activities of the cells in the organs of the human body. Medicine cannot cure disease, but medicine can *effect, for good or ill, the mind of a cell* and thus lead that cell to perform those functions which will bring about the cure of the disease in question. Of course, in addition to medicines there comes the whole question of foods and radiant forces, for they also affect cellular mentation, and they must be studied in the same general manner as those proposed for medicines.

Technical Facilities.—When some months ago I began the study of disease and health from the standpoint of these new lines of investigation, I did not in my most ardent moments anticipate that I would have such excellent facilities with which to carry on these researches. As is my usual custom, I applied to the subject the art of mentation and trusted entirely to the results which my mind would produce when under properly regulated bodily and environmental conditions. I applied each function of my mind to each datum of the previously collected sum of human verified knowledge upon that subject. I was very much pleased to find that the first results were in the line of new instruments of research. I first succeeded in inventing a method to get increased magnification and resolving power with the microscope, and this makes possible the study of the minute anatomy of the units of the cells themselves.

The New Double Microscope consists in applying a second microscope to the already magnified image of the first microscope in such a manner as to get not merely increased magnification but increased detail. I have also applied a third microscope to the second, and there is no limit to the possibilities of magnification and resolution except that of the limits of photography.

But New Photographic Technique, recently discovered while at work on my microscope, enables me to photograph with less than the one hundred thousandth part of the amount of light for-

merly necessary, and this extends the range of photo-micrography up into millions of diameters, and opens entirely new domains in histology and bacteriology.

A New Microtome enables me to make slices of tissues very much thinner than has heretofore been possible, in fact I can divide a cell into several hundred separate slices and this enables the microscope to see, without defraction of light through the substance of the cell, the more delicate internal structure of its different parts.

A Parallel-Beam Reflecting Microscope enables me to view the upper surface of an opaque object and to get details hitherto unattainable, and by use of light of proper wave-length I can see a short distance beneath the surface of most opaque objects, and even to see microscopically a muscle cell through the three skin layers of my finger. This is a device of great promise.

An Insulated Isolation Chamber consisting of three rooms, one within the other, the walls of which contain substances which screen out from the inner room all outside environmental influences, enables me to make psychologic measurements in an unchanging environment, and by admitting one environmental force at a time can determine its effect upon each of the mental faculties.

A Microbnometer enables me to measure the cubical contents of a blood cell or of a bacillus.

And many other special devices, in addition to the usual psychologic and biologic apparatus, are at hand ready for these investigations.

To recapitulate: The foregoing article has designed to impress upon the minds of my readers the conception that the human body is an integral functional part of the larger cosmic organism and that mentation is the result of the inter-action of these two factors; I have endeavored to show from the standpoint of psychology that what has hitherto been called the "vital" and "physiological" processes are in reality psychologic processes, and that the life of a cell is nothing more than its mind; and I have shown from the basis of psychurgy, that by *brain-building* and *immorality-curing* and *dirigation* the personal mind of the human being can directly modify for good or for ill the psychic activities of the cells of the organs of that human being; and, finally, to demonstrate by experimental and other evidence that the fundamental law of cure is a psychologic one, and that the place where it must be applied is upon the minds of the cells out of which the human organism is built; and that there are two general ways to make this application, namely, first, by a variation of the environmental and bodily conditions; second, by a variation of the mental activities of the personal mind of the organism.

The object of this paper has been to show that such researches should be made and to indicate the proper method of making them. By environmental conditions I mean all of the physical things and forces other than those which constitute the human being, such as light, electric waves, sound, chemicals, and so on. By bodily conditions I mean the structures, substances and forces operative *in* the organism. Every bodily and environmental condition should be applied, one at a time, to uni-cells and to multi-cellular organisms in order to determine the precise mental effects which they are capable of producing. Likewise, every form of mental activity should be studied in its effects upon the organism of the cell and multi-cellular organism. Only through such a series of researches may we ever expect to achieve the concrete formulæ and the rules for the cure of disease by strictly scientific methods, and for the attainment of highest health. The conviction has been steadily growing in the minds of scientific observers, that medicine is not a science, and that with the exception of surgery and sanitation it is not even a rational art. Each of the many systems of therapy and cure contains some small elements of truth, and if a fundamental law is ever achieved these separate successes of the present different systems will be found to be small aspects of a much larger truth.

No one who has witnessed the experiments in brain-building and dirigation, or who has practised the art of mentation, or who has seen the experiments upon cellular mentation, will for a moment doubt but that the secret for the cure of disease and the attainment of health is to be found in the study of the effects of forces and mental activities upon the minds of the cells in the animal body. Hence this paper may be considered to contain a first statement of a scientific and fundamental law of cure, to be hereafter elaborated and rendered more definite by a series of most interesting experimental researches.

The perfectly normal person has perhaps not yet been studied, for the simple reason that one cannot be found. Perhaps no one has had all areas of the brain equally developed, and perhaps no one has ever learned to use all of the intellectual and moral functions. Perhaps there is no one who has not inherited organic and mental defects or excesses, and there is perhaps not any spot on earth where all of the environmental conditions are favorable to the highest health and mentation. If disease is to be actually cured and if crime is to be abolished, there is but one royal road to such an achievement, and that is by a scientific study of the mind as we find it manifested in living things and as it is capable of being modified by environmental conditions and by its own activities.

November 24, 1897.

THE STRUCTURAL CHANGES OF THE BONE-MARROW AND OTHER BLOOD-MAKING ORGANS IN PERNICIOUS ANÆMIA AND ALLIED DISEASES AS INDICATING THEIR FUNCTIONS AND TREATMENT.

By M. S. Hosmer, M. D., of Ashland, Wis.

THIS subject is so vast that one can only superficially cover the field in a paper the proper length for a society. Hence, I will only attempt to present to you the principal and latest opinions as I understand them.

The blood-making organs we will consider for our purpose, are, first, the bone-marrow; second, spleen, and third, lymphatic glands. The question of the eosinophilic cells being formed in the skin, bronchial mucous membrane, prostate, ovary and other places, indicated in case of the skin by increase of said cells in pemphigus and some other skin troubles, and in case of the ovary by coitus and menstruation, is not settled, and we will wait for more complete investigations before admitting that they are corpuscle-making organs.

Pernicious anæmia and allied diseases, I will assume as including all those conditions, accompanied by anæmia and naturally tending to a fatal issue. However, in order to limit the scope of this paper and give you a clear idea of what is to follow, I will first give a synopsis of the diseases that I will consider. First, under primary anæmia we have (*a*) primary progressive pernicious anæmia, and (*b*) chlorosis; second, under secondary anæmia, we have (*a*) malignant tumors as carcinoma and sarcoma, (*b*) syphilis, (*c*) tuberculosis, (*d*) intestinal parasites, (*e*) hemophilia (hemorrhagic diathesis), (*f*) intoxication, as lead, silver and mercury, (*g*) post-infections, (*h*) post-hemorrhagic. We also have leukemia or leucocythemia, and of this disease we have the splenic, lymphatic, myelogenic and mixed forms; we must also include Hodgkin's disease or pseudo-leukemia. Now of these various pathological states which I consider may come under the head of pernicious anæmia and allied diseases, the changes that take place in the blood-forming organs, namely, spleen, lymphatic glands and bone-marrow, are very different indeed. In giving the changes that take place in these centers of blood formation, I believe it best to incidentally say something of the morphology of the blood itself, as this will assist in better understanding this somewhat difficult subject.

In primary progressive pernicious anæmia besides the fatty degeneration that takes place in many of the organs, as the heart, liver, etc,. the lymph-glands are usually changed, and have a red color. The spleen is not materially affected except in old cases, when it may be small, tough and pale. The bone-marrow microscopically may be increased in redness, having a raspberry-like appearance; microscopically, increased number of colorless bone-marrow cells, red blood corpuscles with nuclei, pigmented cells and rich in Charcot-Neuman's crystals. Mononuclear leucocytes are apt to be more abundant than in normal blood. The relative increase in the hemoglobin is probably associated with the average increase in the size of the red blood corpuscles. Ehrlich regards the presence of megalocytes as almost distinctive of progressive pernicious anæmia. F. M. Warner, of New York, believes that severe anæmia without apparent cause is strongly suggestive of concealed tuberculosis, and is frequently due to deep-seated and hidden glandular tuberculosis. Stuplen and Kiel, in cases of typical pernicious anæmia, found deposits of iron in the liver, spleen, sometimes in the kidneys and bone-marrow. Mott, in the liver, spleen, pancreas and kidney. Fletti, of Catonia, in a case which died of progressive pernicious anæmia, found staphylococcus aureus and albus in the blood during life. Senator found small ameboid bodies in the blood that he thinks are causative factors. The blood, as you know, has a great decrease of red corpuscles; instead of five million in a c. m. there may not be more than one million. Hemoglobin, *normal* or *increased;* great change in form of red corpuscles, microcytes, macrocytes and poikilocytes; may be red corpuscles with nuclei; leucocytosis not marked. The changes that are usually found in the intestinal glands and spinal cord do not come under the province of this paper.

2. *Chlorosis.*—Clement, of Lyons, has always found hypertrophy of the spleen in chlorosis, which only disappeared when the disease was cured; from this might be argued that chlorosis is an infectious disease. F. Chevostek, of Vienna, has observed enlargement of the spleen in twenty-one out of fifty-six cases of chlorosis. A "fetal state" of the spleen, marrow and other hematopoietic organs has been described as characteristic of chlorosis. Forscheimer, of Cincinnati, concluded a paper on chlorosis as follows: *First*, chlorosis is due to oligochromemia; *second*, chlorosis is the result of faulty hemopoiesis; *third*, in chlorosis the fault in hemopoiesis lies in diminished hemoglobin production; *fourth*, hemoglobin is principally formed in the intestines; proved (*a*) by direct investigation on lower animals, and (*b*) by direct observation on human beings; *fifth*, hemoglobin formation can be increased by the introduction into the intestines of agents not containing iron, but preventing putrefaction; *sixth*, chlorosis is due to a prevention of hemoglobin formation by destructive agents acting upon the precursor of hemoglobin in the intestine. Friedrich Krüger, of Dorpat, believes that essential anæmias (chlorosis and pernicious anæmia) are due to irritation of the sympathetic nervous system, resulting in altered function of the spleen. He found the blood in the splenic vein richer in hemoglobin and dry residuum than the blood of the splenic artery. Lemoine, of Lilli, has examined the blood of chlorotic patients for micro-organisms, and in ten or twelve cases has found streptococcus albus or the staphylococcus albus, and in rare instances the bacillus coli. In lymphatic chlorosis there is no great change in the blood-corpuscle, except diminished hemoglobin. In myelogenic forms there is in the severe varieties, not only diminished hemoglobin, but reduced number of red corpuscles and change in form of red corpuscles. In chlorosis there is no leucocytosis unless there is a complication.

Secondary Anæmia.—First, the anæmia due to malignant neoplasms (carcinoma and sarcoma). In the spleen the changes are similar to essential anæmia, except where there is metastatic infection, which is seldom. The most frequent metastasis of all is in cases of melanotic sarcoma; sometimes the spleen will be completely infiltrated with black pigment or round black knobs. Lymphatics: In lymphosarcoma the lymphatics are primarily and particularly affected. Secondary sarcoma of lymph-glands is common in small

round cells and in melanotic sarcoma. In carcinoma, infection of lymph-glands is always secondary and varies in extent. The color of the gland is white, consistent, hard or soft, usually brittle, and may become suppurative. The histological character varies with the primary affection. The bone-marrow may or may not be affected. In the severe forms it is always involved and has a fetal character. Blood is always changed in the severe forms of secondary anæmia or cachexia. First, decrease in number of red corpuscles; diminished hemoglobin; change in form, microcytes, megalocytes, poikilocytosis, polynuclear, leucocytosis, red blood-corpuscles with nuclei, and when the bone is the seat of the neoplasm, there are bone-marrow cells found in the blood.

Syphilis.—In pernicious anæmia due to syphilis the bone-marrow is probably not much affected; at least, there is but little written on the subject, The medullary canal of long bones is often filled with gummata, and accompanying granulation tissue and softening of parts. Tumefaction of the spleen is regarded as one of the first things that occurs in syphilis. It accompanies adenopathy, but in the latter stage it shrinks. The lymphatic glands are generally and extensively involved, however, when syphilis causes pronounced anæmia; the skin is muddy and tinged with yellow hematogenous icterus, the cachexia may be extreme. The red blood corpuscles are not changed in shape but diminished in number, and may not be more than 3,000,000 per c. m., and hemoglobin 40 or 50 per cent.

Tuberculosis. — What one might call great anæmia does not occur in tuberculosis; never find red-blood corpuscles with nuclei. The eosinophilic cell is diminished. It is more a thinning of the blood, no uric acid found in the blood, the bone-marrow not materially affected; the spleen often having tubercular deposits, and lymphatics always more or less involved.

Intestinal Parasites.—The bothriocephalus latus and the anchylostoma duodenale have been recognized as the cause of pernicious anæmia. They probably cause this anæmia by sucking blood from the intestines, and this continued loss of blood leads to such anæmia. There have been cases with only 20 per cent. hemoglobin and 1,000,000 red corpuscles per c.m. The principal pathological changes in all parts of the body are multiple pinhead sized hemorrhages in brain, spleen, liver, etc., there is an increase of the eosinophilic cells in these cases.

Hemophilia.—Virchow believes the cause of this affection is in the blood-vessels, rather than the blood proper, or the blood-forming organs. There is wasting of the middle muscular tunic of the arterioles. After repeated hemorrhages, red corpuscles with nuclei are found in the circulation. Zenoni believes their appearance is due to the sudden withdrawal of blood, and that they are sucked out, as it were, from their habitat, namely, bone-marrow, and that some of them get stopped in the spleen, proliferate there, and give the spleen that fatal hematopoietic function which it has after severe hemorrhages.

Intoxication. — As from lead, mercury, silver, etc., the reaction of the blood is changed; and in the severe anæmias there is cachectic leucocytosis, and great change in form of red corpuscle. Hemoglobin may be 50 per cent., and number of red corpuscles one-half reduced. The changes in bone-marrow, spleen, and lymphatic glands the same, so far as I can ascertain, as in pernicious anæmia proper.

Post-Infections. — Kolisko, of Vienna, has demonstrated that the bone-marrow in the proximal ends of long bones, in cases of septicemia and pyemia, is very red, with fatty degeneration, and arterioles dilated, while the distal ends look normal. The spleen is also enlarged, softened, pulpy, and filled with leucocytes. The lymph-glands also softened and enlarged. In the blood there are marked leucocytosis, bone-marrow cells, and nucleated and red blood-corpuscles.

Post-Hemorrhagic.—When there is great hemorrhage the anæmia is due to lack of blood-bulk, and there is no great change in the blood-making organs except increased activity.

Leucocythemia.—The bone-marrow, spleen and lymph-glands may each alone or altogether be affected, making the splenic, lymphatic, myelogenic, or mixed form. E. Neuman believes there is no leukemia without bone-marrow involvement, but Ponfick says, "In some forms of lymphatic leukemia the bone-marrow is not involved." Ponfick differentiates two groups of bone-marrow changes in leukemia. In the first, the bone-marrow is red and similar to progressive pernicious anæmia. In the second, the marrow is gray, or gray-yellow to reddish-green, resembling pus. The increase of the colorless cells is so great that the blood-vessels are compressed, which causes the gray color. Microscopically increased number of fatty, degenerated, colorless, bone-marrow cells, nucleated red corpuscles, and many Charcot-Neuman's crystals. There may be hemorrhagic infarcts, as occurs in the spleen. In the early stages there may not be any great change in the spleen. In some forms of leukemia there is hyperemia of its whole substance; a hyperplasia of all the cell-elements, the pulp and follicles. The cells grow more and more into the pulp, seldom into the follicles; these cells may become the size of peas. The spleen in these cases may become very large, but is generally soft, pale-gray in color, the surface flat, and on cutting, the cut surface may be homogenous. In other cases the principal hyperplasia is in the connective tissue, the tender reticulum, and trabeculæ, producing an increased consistence. As this goes on the organ becomes very much enlarged, hard and heavy. The surface of the organ contains scar-like depressions and irregularities, and on cutting the cut surface is usually marbled, yellow, yellowish-brown, brown-black pigment, and on the fresh-cut surface one can have wedge-shaped hemorrhagic or necrotic areas. In these necrotic parts are often found leucin and tyrosin crystals. In the spleen, bone-marrow, as well as in the blood, Charcot-Neuman's crystals are found. Lymphatic glands in leukemia may become enormously enlarged, as in the neck, often

as large as one's fist; then the neighboring glands enlarge, followed by general lymphatic enlargement. The enlargement is usually without pain and the tumor not attached to the skin. Microscopically the glands in all their meshes are richly filled with leucocytes; the functions of the gland are increased. The gland is soft, brittle, and in some cases fibrous hyperplasia results; then they of course are harder. The blood in leukemia varies as to whether it is the lymphatic, splenic, myelogenic or mixed variety with which we have to deal, and its examination is our only means of differential diagnosis. The principal characteristic of the blood, however, is that the proportion of the white to the red corpuscles is changed. Instead of 1 to 500 we may have 1 to 200, 1 to 100. 1 to 1, or even less of the red than the white. In the lymphatic variety, of course, the mononuclear lymphocytes predominate, and in the myelogenic form we have nearly all known pathological conditions of the blood, even corpuscles in karyokinesis, Cornell's myelocytes, etc., etc.

Hodgkin's Disease.—Pseudo-Leukemia (Cohnheim); Aleukamishe Adenia (Laughans); Adenia (Trousseau); Maligne Lymphome (Billroth); Lympho-Sarcoma (Virchow). While there are changes in the lymphatic glands and spleen, resembling leucocythemia and anæmia similar to the true disease, yet the blood does not show the leucocytosis, and hence its examination is necessary for a differential diagnosis. The condition of the lymphatic glands and spleen, while resembling those in leukemia, yet they are different. The size of the spleen is not so great; its enlargement is uniform and the localized enlarged follicles are of lymphoid tissue. The cut surface is rough, due to the pushing up of the lymphoid knobs. The knobs are frequently soft in the center and grayish, and surrounded by a yellow ring, colored from hematin. The lymph-glands may be universally enlarged, but in the neck many of them fuse together, making a very large tumor. The bone-marrow in some cases is said to be involved, may have a lymphoid character, and in cases it may have even the pus like appearance that we see in true leukemia; death is usually from anæmia in this disease.

TREATMENT OF ANÆMIA.

The large group depending on the drain on the albuminous materials of the blood, as in Bright's disease, suppuration and fever, is difficult to treat successfully, and so long as the cause keeps up, it is impossible to restore the normal blood condition. The anæmia of inanition requires plenty of nourishing food.

Much good can be produced in certain conditions by influences affecting the circulation, such as hot and cold bathing, massage, changes of the barometric pressure and the like.

Jarunstowski and Schroeder have studied the influence of altitude above sea-level upon the blood. They found that the red blood-corpuscles in healthy man increased with the altitude.

Massage in the healthy man will increase the number of red blood-corpuscles and hemoglobin. It is thought that the increased richness of the blood does not result from a production of the blood corpuscles, but rather from the sweeping into the circulation of corpuscles that had lain in the by-ways of the circulation.

TREATMENT OF PERNICIOUS ANÆMIA.

One of the most important points in the treatment of pernicious anæmia is to discover the exciting cause in each individual case. A great drawback to success is the fact that patients are often in an advanced stage of anæmia and debility before applying for advice. Osler insists in beginning the treatment by rest in bed, a light but nutritious diet, giving the food in small amounts and at fixed intervals.

Stockman, of Edinburgh, believes that it is always advisable to give iron in the form of a non-irritant preparation, and thinks the reason why it so often proves inefficient is that, owing to the frequent hemorrhages, blood manufacture does not keep pace with blood loss.

Riva-Rocci, of Turin, from his experience for the past six years, expresses the belief that the injection of iron salts, while improving and sometimes curing anæmic conditions, does not combat the cause of the anæmia, and that this fact explains the frequent recurrence of the disease. It would appear from numerous researches that iron introduced by injections remains in the organism as an assimilable substance. Dynamically iron produces hyperemia in various organs and tissues, favoring the resorption of œdema in anæmic patients, the destruction of old red corpuscles, and the formation of new hematins. He places in the first rank preparations of ferric citrate of ammonium in 0.20 to 1 per cent. solution, in doses of 0.05 to 0.30 grams (¾ to 4½ grains). The administration of this drug sometimes causes nausea, vomiting, sneezing and fever, but it is always possible to avoid local reaction.

Since the introduction by Byron Bramwell of arsenic in this affection a large number of cases have been temporarily, a few permanently, cured by it. It should be given as Fowler's solution in increasing doses. It is sometimes better borne as arsenious acid in pill form.

The mode of action of arsenic and phosphorus is little understood, but neither of them can replace iron in the blood-corpuscles, and hence, as they both have a powerfully stimulant and alterative effect on bone, it is probably not far from correct to assume that they may stimulate the bone-marrow and thus increase the number of blood corpuscles produced by it. To get the full benefit of Fowler's solution, it should be given in beginning doses of two to three drops in water after meals and increase the dose gradually to twenty and thirty drops.

Bone-marrow freshly removed from the bone and the glycerin extract have met with very decided success in most every case. The whole matter, however, must be considered as unsettled.

Frazer records a case of extreme anæmia with pronounced symptoms in which the administration of uncooked ox-bone marrow, in quantities of three ounces daily by the mouth, caused de-

cided improvement after twenty-seven days. The blood before and after treatment showed respectively 1,860,000 red corpuscles with 30 per cent. of hemoglobin, and 3,900,000 red corpuscles with 78 per cent. of hemoglobin. The ill success may be due in some cases to the preparation used; the uncooked bone-marrow has been successful where the glycerin extract has failed.

Broadbent advises the use of manganese when the anæmia is associated with uterine or menstrual trouble.

When all remedies have been tried in vain the question of transfusion of blood arises. As a substitute for the intravenous transfusion, the blood has been injected into the peritoneum; this has been practiced in Italy with success.

TREATMENT OF CHLOROSIS.

Iron is practically a specific in this disease. Dilute hydrochloric acid, manganese, phosphorus, and oxygen have been recommended. An important feature in the treatment of chlorosis is to persist in the use of iron for at least three months, and if necessary subsequently to resume it in smaller doses, as recurrences are so common.

The diet should consist of good, easily digested food. Special care should be directed to the bowels, and if constipation is present a saline purge should be given each morning. Such stress does Sir Andrew Clark lay on the importance of constipation in chlorosis that he states, that if limited to the choice of one drug in the treatment of the disease, he would choose a purgative. Some of our best authorities consider rest in bed for some time as of the greatest importance, as it checks the too rapid destruction of the red corpuscles.

Henri Huchard directs that milk shall be used; if this is badly borne, pure water, or a hot, weak infusion of tea (hot drinks excite the gastric secretion), eggs, *puree* of vegetables, lean meat, fish, fowl and cooked fruits. One-half hour before the meal a small dose of an alkali, as sodium bi-carbonate, should be prescribed for the purpose of exciting the flow of gastric juice. At the same interval after it a Madeira glass of hydrochloric acid in solution in water 1 to 250.

I have generally used Blaud's improved pills, one three times a day, and enough cascara sagrada each night to move the bowels the next day, or iron and manganese with some laxative; where these have failed I have used the glycerin extract of red bone-marrow with success.

TREATMENT OF LEUKEMIA.

Fresh air, good diet, and abstention from mental worry and care are the important general indications. The *indicatio morbi* cannot be met! There are certain remedies which have influence upon the disease. Arsenic and bone-marrow are the most important. Rummo recommends hypodermic injections of arsenic in leukemia and pseudo-luekemia. Fowler's solution is painful, but he has used a solution of arsenite of soda (two grains to the ounce) in doses of 1-27 to ½ a grain with excellent effect.

TREATMENT OF HODGKIN'S DISEASE.

When small and localized, the glands should be removed. Local applications are of doubtful benefit. Arsenic is of positive value in the disease. Phosphorus is recommended by Gowers and Broadbent, and should be used if the arsenic is not well borne.

Quinine, iron, and cod-liver oil are used as tonics. Every possible means should be taken to support the patient's strength.

THE TREATMENT OF PNEUMONIA.*

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THIS disease may be very simple to treat or it may be one of the most difficult in the entire range of the profession. It is generally considered dangerous, and one of the most fatal affections which may happen to the human body. The recommendations in the treatment of inflammations of the lungs comprise a wide and variable list of singularly strange and often contrary remedies. It is the purpose of the paper to indicate the author's process of managing this disease, the result of individual experience based only slightly upon views entertained by other clinicians. It has been the aim to find the essential clinical principles upon which to conduct the best treatment. So many therapeutic propositions are presented that it is a most trying ordeal to know which course to choose. We do know that there often are favorable terminations of pneumonia even when the case is treated by most contradictory methods. That the disease does terminate favorably under diversity of treatment would seem to prove that it is not so much the treatment as it is the recuperative forces of nature that produce the favorable conclusion. Then if the deduction is true that the disease ends favorably under a variety of plans of treatment, does it not establish that the inherent tendency to recover is the principal element of the cure? We all know, through many years of clinical experience, the difficulty it is to decide between cause and effect; for this reason experiments were begun several years ago looking to some satisfactory treatment of febrile diseases.

When the system is invaded by conditions which establish symptoms by which we say that the disease is pneumonia, what is it that really takes place? Previous to the attack, the health has been undergoing or has undergone deterioration, which is disease. Omitting the contention that pneumonia may be caused by pathogenic germs, the leading symptoms consist of nervous shock, rigors, pain, and perhaps nausea. The nausea is an internal manifestation of nervous origin, likewise the chill.

They are both symptoms of the first un-

* Presented by title at the Meeting of the Mississippi Valley Medical Association, Louisville, Oct. 5, 1897.

balancing of the nervous system and as such are intended to stand as warnings of danger. If the system is overwhelmed, these symptoms are proportionately severe and lasting. In a recent case the nausea, accompanied by vomiting, persisted during a period of twenty-four hours. This distressing and uncontrollable exhibition of nerve disturbance is an indication of very severe prostration. It generally signifies that the course of the disease may be protracted. Fever and congestion of the lung tissues, with excited heart-beats, quickly make their appearance. The situation confronting us is: fever to subdue, arterial pressure to overcome, congestion to remove, and oxygen to provide for preserving the blood.

The principle which has guided in my experiments in the treatment of pneumonia is that the maintenance of the strength of the patient is the first requirement in the successful treatment of an acute disease. Whatever would further prostrate the resources of the system would defer the convalescence. Even though the system be in a condition of fairly good resisting power at the time, the forces are quickly vitiated and impaired, unless the strength is conserved and the vitality augmented. To preserve the resistance of the organism against disease requires an understanding of two simple propositions. First, how to support the embarrassed vitality; and, secondly, the removal of deleterious matter from the body.

Starting with the first symptoms, which are generally rigor and vomiting, how may they successfully be controlled? These symptoms result from the same cause, simply a dual manifestation of disturbed nerve balance. When this disturbance subsides then the symptoms subside. This nervous embarrassment may be due to septic material in the blood or other portions of the system. But these symptoms as such do not require special treatment, dependent as they are upon a general condition of the whole body, hence to cure the symptoms means the cure of that condition which causes them. The treatment is planned with consideration of the whole body and not to any particular symptoms of whatsoever nature. If the treatment is properly directed to the general system the incidental symptoms will take care of themselves. It has been found by actual clinical demonstration that pneumonia may be successfully controlled by a process of treatment very nearly free from the employment of drugs. Practical management is what is required.

During a visit to the clinics of Europe it was observed that an immense amount of attention and intricate detail was given to the exquisite differential diagnosis; practical treatment was often subordinated to pathology and diagnosis, while the result desired did not always correspond to the wide reputation of the doctor. All pains for diagnosis and theoretical questions, but little for the practical side. This relates to nearly every class of disease. It was also observed that the death rates varied but slightly from the general averages through a series of many years. The conviction became firmly established in my mind that American physicians were superior to the foreign physicians in the material questions involved in treatment. Indeed, America stands pre-eminently prominent for practical works in all departments.

It takes a long time and a great many personal experiences in the practice of medicine to determine surely a few points that may be trusted. It seems to me that the first requirement in the treatment of pneumonia should be to maintain the integrity of the lung tissue, and to preserve the delicate structures from the destructive influences of pressure and fever. A few thoughts concerning congestion of the bronchial capillaries. By reason of the disturbed control of the circulation, the blood is made to rush into the vessels of the lungs faster than it can escape through the arteries. This produces an unusual pressure, which forces a rupture through the delicate wall into the intercellular tissue, the air spaces and the smaller tubes. Accompanying this escape of blood there is a mucus accumulation in the tubes. Thus we have formed the first blood-stained expectoration, which is indicative of either the impaired strength of the coats of the vessels or the destructive pressure of the impeded circulation. Blood entering the small vessels faster than it can escape produces congestion. Congestion in turn not only prevents air entering the air spaces, but induces destructive tissue metamorphosis, which further encumbers the economy, through the accumulation of waste products. At this point the reduction of the blood pressure is of vital importance, in order to stop the destructive process in the cellular structures of the lung. Various arterial sedatives are recommended, and seemingly sometimes justifiably advocated.

As soon as the nervous control is regained the system will recover its normal condition quickly. If the inflammatory processes have been checked early, debris in the system is comparatively easy to eliminate. When *water* is introduced into the circulation in sufficiently *large* quantities and at regular and suitable intervals, inflammatory processes are checked and injury to delicate tissues greatly lessened. In inflammations of the cellular and mucous structures there is great loss of the fluid element of the blood. Water maintains the volume of the circulating fluid and diminishes the danger of fatal congestion. Besides this, taking the hint from marine life, water supplies a portion of the oxygen necessary to the blood. When the pulmonary apparatus is functionally impaired, whatever will support it necessarily forms one of the best therapeutic measures.

In febrile conditions the limit to the quantity of pure water that may be introduced into the system is very large indeed. In one instance the patient was given during the first twenty-four hours of pneumonia, the enormous quantity of three gallons of water. The beneficial effect was recognized by a complete interruption to the course of the disease and convalescence established within the first forty-eight hours. By diluting the blood with water to a great degree the fluidity is maintained under all circumstances, which enables the circulation to proceed without interruption throughout the entire capillary sys-

tem. Whenever the blood is altered in its density, the effect is first felt by the far-away small arterioles. A secondary effect is produced upon the lymphatic vessels, which become empty and collapsed. The condition now is most favorable to formation of toxic and waste matter in the intercellular spaces.

It will be seen that in the treatment of this disease, scientifically considered, it is of the first importance to check alterations in the volume of the blood and to prevent thereby capillary congestion. Both these requirements are successfully accomplished by *water* taken into the system through the mouth. If the circulation is normally maintained, there cannot be serious dyspnœa accompanied by consequent pulmonary distress to the patient, and the number of respirations, even in severest cases, rarely exceed a slight increase above the normal. The next beneficent influence that is produced by large, regularly and properly administered doses of water, is reduction of temperature. Though it has been my observation that if the volume of the blood is kept slightly above normal and the respirations but slightly increased, there is very much less importance to be attached to the fever. Every tumblerful of water that enters the stomach, and before its escape from the body, goes into the circulation and traverses through and through every blood vessel of the entire system. The watered circulation is in a proper chemical attitude to dissolve systemic debris and remove it through the natural eliminating channels. It is true that there are formed during inflammatory diseases some products which cannot be held in solution by pure water. Fortunately, water has the property of holding such matter in suspension until it can be carried to the proper excretory organ. The muscular system as well as the nervous centers are saved by hydrotherapy from much of the injury that would otherwise take place. These favorable results have been observed many times during critical inquiry into the processes of inflammatory lung affections. The time when large quantities of pure water may be easily born and safely used is at the beginning of inflammatory diseases, while the forces of the body are still vigorous.

The use of water by the mouth as a remedy is accompanied with extremely small doses of medicine; the object of the medicine is to meet the expectations of the patient and members of the family. From infancy, the necessity of drugs for the cure of disease is taught to all classes. Therefore, if the doctor would retain his case, it is necessary to recognize the demand of patients and their friends for medicines. While medicine is used by me in practice, it is principally for the value by suggestion. It is better when using hydriatic measures to combine harmless medicines. Courage to treat patients by the method which is herein related is hard to establish with those physicians who depend upon drugs for the cure of pneumonia. Pneumonia cases treated by hydrotherapeutics are convalescent at the end of the first week. Complete recovery is proportionately rapid. The comfort of the patient is almost always maintained throughout the acute illness. The clinical improvements which take place from day to day are real and dependable. The case goes steadily towards convalescence when not a fatal issue. There are no relapses, because whatever gain has been made is natural, not being based upon artificial agencies. So far no case has terminated fatally managed on the plan herein described. Hydriatic treatment is a test of the severity of the disease. If the case proceeds quickly to convalescence it indicates a mild condition. If the convalescence is much delayed when hydriatics are properly used, the dangerous character of the affection is clearly proven.

Irrigation of the bowels constitutes the use of water in its second remedial capacity. The value of the irrigation is placed second in importance.

Bathing the body constitutes a measure of great importance in my estimation. To remove a patient from his bed to a bathroom is in many times and places inconvenient, though a most useful measure. An improvised bath in the bed is frequently used with great success. Sponging the body with water is the most common method. A sprinkle bath has recently been instituted in my practice. A fountain syringe containing water of suitable temperature is hung on the wall, the chandelier or the bedpost, and by reason of a small sprinkler nozzle fitted to the end of the tubing, the patient placed upon a blanket or a rubber sheet is sprinkled, with friction. This is quickly accomplished. There is little discomfort to the patient, and a refreshing influence is the result. Sprinkle baths should be given to the patient every two or three hours during the day.

D. C., aged 44 years, resident of Colorado, merchant, during a recent visit to this city was suddenly prostrated. At noon on the first day intense vomiting was the symptom of alarm. This continued with unremitting violence during the first 24 hours, after which vomiting ceased. The first visit to this patient was ten hours after the attack began. There were severe rigors at intervals during the first afternoon and evening. The temperature was 102, the pulse rate 120, the respiration proportionately increased, but not counted. The following day cough was established accompanied by much bloody mucus. On the second day continued bloody mucus, more frequent cough, subcrepitant rales over both lungs, and rubbing sounds of the pleura of both sides. Temperature, 105; pulse, 90; respiration, 20; more prostration, some restlessness. Third day, patient cheerful; temperature, 103; pulse, 84; respiration, 20. Fourth day, temperature, 102; pulse, 84; respiration, 18. Fifth day, rusty sputa, cough, right lung clearing, considerable dullness under the left arm, but no dyspnœa; temperature, 101; pulse, 84; respiration, 18. Sixth day, rusty sputa, right lung clearer temperature, 100; pulse, 84; respiration, 16. Seventh day, temperature normal respiration, 16; pulse, 84; rusty sputa, patient convalescent; fair appetite, quiet, cheerful, sleeps all night. Patient is now in the first week of convalescence and is sitting up. Temperature has remained normal

since the seventh day. This case is a type of other experiences with hydrotherapy.

The only medicine administered throughout the course of this treatment consisted of minute doses of morphine dissolved in tumblerfuls of water which were given him at regular intervals of one hour, during the day and evening. The largest quantity of water administered in any one day was four quarts. The greatest amount of morphine in any one day, ¼ of a grain. Sprinkle baths were given on an average of once in three hours to the whole body. Cold water compresses were laid across the chest covered with flannel to protect the bedding. Irrigation of the bowels consisting of three quarts of soapy water were given each day. There was therapeutic fasting for the first three days. After that the food consisted of milk, milk and raw egg, beef juice from fresh meat, fruits and lemonade when he desired it.

It is my belief, based upon actual contact with almost every form of pneumonia during a period of eight years, in which this process of treatment has been developed, that it is the quickest, surest and best management of pneumonia. My experience has taught me that there are exceptions when the treatment will not apply, such as cases where the patients are fractious and the friends meddlesome.

10 West Forty-ninth street.

THERAPEUTIC VALUES OF SERPENT AND INSECT POISONS.

By James Robie Wood, M. D., LL. D., New York.

THERE is a wide and almost unexplored field before us from which pioneers in therapy will return with golden stores to enrich the materia medica.

Hints of the importance of this comparatively unknown region were given in a former paper. A few early explorers have left their footprints along its borders, and although they brought back but scanty tokens from this land of promise, yet these have been of sufficient interest and value to stimulate to renewed endeavor other earnest seekers after such therapeutic treasures.

Painstaking and thoroughly equipped guides like the brave and broad Behring will make safe and trusty leaders in this new field, for only by adopting similar laws to those which have governed him and his fellow-workers along the same lines can its precious yield be made available.

This scarcely known region is the *reptile and insect world*, whence may come therapeutic forces all powerful to overcome serious maladies which now so often defy medical effort.

It would be idle for us to gather those dangerous venoms without some guiding principles to direct our labors.

What are these principles? That, in a certain sense, the seed of woman may crush the serpent's head, man must learn to destroy the dangers of its venom and direct it against the malignancy of diseases entailed upon man by his fall.

What guide must we choose? So-called "enlightened empiricism" will not help us. The chemist and microscopist can lend no aid until they are told what to look for. Therefore some definite rule of action must govern intelligence, else every effort will be fruitless. It would be hopeless to ask the law of *contraria* to take the first step, for empiricism would have to lend its very frail crutch. Identity is also manifestly useless in directing the initial application of these peculiar poisons.

Where then shall we turn for chart and compass?

There is but one, there can be but one rule to guide our first footsteps; later chemistry and the microscope may offer their invaluable helping hands to solve many obscure mysteries and to discover or develop other guiding principles, as well as to learn the meaning and power of their antagonism to disease.

As long as we make these two great aids, chemistry and the microscope, *servants* of science and not its *masters*, so long will we progress and no longer; for unrestricted confidence in their mere material dictation may drive us upon hidden rocks, and, paradoxical as it may seem, even dangerously near the realms of superstition. Indeed it has already evidently become little more than a superstition that certain bacteria produce certain results; a belief which often does and in the future may in many cases prove to be but flimsy ghosts of reality.

Before going into a discussion of the principle or law which may discover a pathway to other principles or laws and give us true indications for the right application of such venoms in disease, t may be useful to consider some of their characteristics.

Upon an examination of the chemical composition of various ptomaines, it will be noticed that very few containing oxygen are toxic, while the large majority of those made up of carbon, hydrogen and nitrogen alone, in varying proportions, are more or less toxic. It will further be observed that hydrogen is present in great excess in nearly all cases where the ptomaines are toxic, notwithstanding the presence of several equivalents of oxygen in their composition. It has been asserted that many, although not all, serpent and insect poisons are cyanogen compounds, not unlike the ptomaines, and that both might be more or less neutralized could they be treated directly with ozone, which, by uniting with the carbon, nitrogen and hydrogen, produces carbonic acid, nitrous and nitric oxides and water, thus splitting up the toxic cyanogens into inert elements. For convenience in introducing active oxygen the permanganate of potassa might be effectively applied as antidotal to many of the cyanides resulting from putrefaction or animal secretion. One great objection to the permanganates of alkalies, even when used in such cases as diphtheria, is that the separated alkali might prove to be an annoying irritant; there is a chemical combination which, sooner or later, may be within reach of physicians, against which this objection cannot be urged. It is *per-*

manganate of iron, but it is so unstable when in solution that it cannot as yet be handled, as the slightest heat decomposes it. Could it be held long enough for medical use it would probably prove of inestimable benefit in a large number of conditions produced by various toxicants of the character above mentioned. The permanganate of iron would readily set free its abundant ozone, and the insoluble and inert oxides of manganese and iron would be formed.

Without question efficient chemical means will sooner or later be perfected for overcoming many of these poisons, but it is important not only to neutralize these toxicants directly, but also to find some means to antagonize the effects of those which persist beyond an acute stage and leave troublesome chronic ailments. In such conditions remedial identities, not unlike our present antitoxins, would play an important role. But there are more controllable means governed by similarity and other laws which may soon be within reach, to which resort may be made in all confidence.

To avoid the charge of indirectness it may be stated, and it can be proved by clinical examples, that by careful, unprejudiced, general observation, assisted by microscopical and chemical studies of the peculiar action of some animal poisons upon living tissues, we may find a broad stepping-stone to their therapeutic indications, but as the space in this, the silver jubilee number of THE MEDICAL TIMES, is required for more important papers, a full account of the meaning and value of these indications must be deferred; besides such subjects, for many years to come, will be spoken to empty benches. Half a century hence such thoughts will no longer provoke a smile.

SOME OF THE CAUSES THAT CONTRIBUTE TO FAILURES IN GYNÆCOLOGICAL SURGERY.

BY HOMER I. OSTROM, M.D., NEW YORK.
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PART I.

IN no department of medicine have more brilliant results been obtained than in Gynæcological Surgery, but it is equally true that in no department have we to record more lamentable failures. On the one hand cases that only a few years ago would have been relegated to the domain of the incurables, are now restored to health; on the other hand the resources of our art not only fail to relieve, but our operations frequently develop new and more distressing symptoms than those we attempt to cure. The comparative newness of this branch of surgery may be alleged as a general cause of these failures, for we deal with the selection of cases and the development of technique; but let us see if there are not other factors than these, that contribute their quota to success or failure.

It goes without saying that an accurate diagnosis must precede the treatment of any and every case of gynæcology. I hold that no person is qualified to undertake the treatment of a case unless he is able to first determine the existing conditions, and establish in his own mind exactly what he has to deal with. I consider it wholly unjustifiable to treat a case with the view of developing a diagnosis. Such treatment, if it does anything, must be harmful. I believe it far better to await the natural course of the disease than to mark it with drugs and mechanical measures in the hope that our ignorance may by such means be supplemented. Too frequently, I fear, this is done. A case applies for treatment. We are not sure of the diagnosis and begin a course of treatment, or prescribe for the symptoms, in the expectation that something will develop to aid us. Now any case that calls for treatment must be sufficiently defined to admit of a diagnosis. We should certainly be able to say whether or not the uterus is inflamed: whether or not the ovaries or tubes contain pus, or are adherent. If the uterus is dislocated, whether or not its natural supports are strong enough to retain it in position. And so on through the whole category of gynæcological diagnosis: let us *first* be sure of the condition we have to deal with: *second*, of what we want to do, and *third*, let us do it. Far better is it for us to refuse all treatment until we feel ourselves capable of fulfilling these three requirements.

The objection may here be raised that we risk losing our patient if we do not adopt a treatment that gives her an impression that something is being done for her. But the days for bread pills are passed, and this consideration is unworthy of the medical scientist.

For convenience of consideration we may divide gynæcological surgery into abdominal and vaginal operations. This is, of course, an arbitrary division, but it will serve to simplify the discussion, for our manipulation of the female organs must be conducted either through the abdomen or through the vagina, and this not necessarily when the organs treated are in either of these cavities. Thus we may remove the uterus and appendages through the vagina, or we may open the abdomen to gain better access to the vault of the vagina.

Here we meet with the first cause that contributes to failure in gynæcological surgery. I refer to the selection of the route by which we gain access to the field of operation. This is a vexed question, and one that is not likely to be soon settled. Individual skill will enter largely into the problem, for one operator will be able to do his best abdominal work through the vagina, while another, equally skilful, will give his preference to the abdominal operation; still it must be possible to approach a definition of the limits of these two methods of operating for pelvic diseases; to mark off the diseases that are best attacked through the vagina, from those that should be reached through the abdomen, and to point out, at least in general terms, the conditions that indicate for the one or the other operation. Vaginal, as opposed to abdominal hysterectomy, is a gynæcological battle ground. Not quite as fiercely fought as a few years ago, for statistics are now coming to our aid, but still urged with sufficient vigor to call forth strong opposition from those who do not advocate it. Into this discussion I do not propose to enter more than to

give the weight of my experience in favor of the vaginal operation for any uterus that can be removed through that canal. I regard it as less severe than the supra-pubic operation, attended with less mutilation and less risk of post-operative hernia. I also find the patients recover from it with a shorter period of convalescence. My position is, therefore, to give the preference to the vaginal operation when the size of the uterus and the parts to be removed will permit of removal, without morcellation, through that canal. Against the deliberate operation of morcellation I unreservedly set my face, for it is an unsurgical procedure, being an unnecessary mutilation; dirty, and uncertain; impossible to conduct upon strict aseptic principles, and in no respect possessing any advantages over the abdominal operation for which it is offered as a substitute. I say deliberate operation of morcellation, for we sometimes find ourselves in a position in which we are obliged unexpectedly to remove a uterus or tumor piecemeal. Of course, such do not fall within the above strictures, but only cases in which we know before we begin our operation that the mass to be removed is too large to be taken out through the vagina, and we deliberately plan our operation upon the lines of morcellation.

I will here address myself more particularly to the consideration of how best to reach diseases of the ovaries, Fallopian tubes and pelvic tissues, and consider the conditions that may weigh for or against the abdominal or the vaginal route.

This class of diseases is generally associated with the formation of pus, or fluid of some variety. Not necessarily or indeed frequently is the patient septic, for the pus when it exists is usually circumscribed, and other fluids are quite innocuous. In other words, we frequently have an abscess to deal with, and the question we must decide is whether the abscess or abscesses can be reached and drained better through the vagina or the abdomen. We have also to deal with collections of blood in the pelvis, either intra-peritoneal or extra-peritoneal, but the same question of treatment presents itself. Are such collections reached more easily and with the minimum risk from below as from above?

With few exceptions, diseases of the true pelvis are better operated on through the vagina than through the abdomen. Any tumor containing fluid (pus or blood) that can be pressed down against the vault of the vagina is operable through that canal; but I do not favor this route when, in order to reach the sac, we must open the peritoneum. If the tumor is extra-peritoneal (unless a case of recent rupture of a previously formed sac, it must be such), and the operation through the vagina cannot preserve these anatomical relations, I think the high operation offers the best facilities for leaving the abdomen clean. The sac is not so liable to rupture during its removal, and the peritoneum can be better cleaned from above than from below. The case is different when the uterus is included in the operation, for the additional space its removal affords, not only greatly facilitates the manipulation, but offers advantages for the toilet also. I know of few more difficult, and I think more hazardous, undertakings in pelvic surgery than the removal through the vagina of a pus sac, which from its anatomical relations may necessitate opening the peritoneum. Such operations are surgical pyrotechnics and have only brilliancy to recommend them.

It is a fact in abdominal pathology, and one for our congratulation, that nature tends constantly to form adhesions between inflamed surfaces, which render innocuous, as far as possible, the results of disease. By this means adhesions form between the peritoneal walls of an abscess and the most dependent part of the pelvis—the vault of the vagina—towards which any tumor naturally falls, and the cavity can thus be opened through the vagina, without entering the peritoneum. This is an ideal operation, and is generally possible. An ovarian abscess, a pus tube, or extra-uterine pregnancy that has ruptured between the layers of the broad ligament, are easily and safely reached through the vagina, for the two first tumors, unless of very recent origin, early contract adhesions where they gravitate, the posterior cul-du-sac; and the last variety of tumor separates the peritoneal walls of the broad ligament and appears at the side of the uterus as a purely extra-peritoneal tumor.

Operating on such cases through the abdomen, while of course possible, subjects the patient to unnecessary danger from infection, and converts an almost risk-less operation into one of major importance, and may be considered as one of the causes of failure in gynæcological operations.

We may therefore formulate the law, that as the majority of cases of pelvic suppuration can be reached through the vagina without opening the peritoneum, this is the point of election for such operations.

Another class of cases closely allied to pelvic abscesses, in the treatment of which success or failure will in great measure depend upon deciding between the abdominal or vaginal route, is general pelvic suppuration, and multiple abscesses. These collections of pus lie either between adherent coils of intestines, or are situated in the pelvic cellular tissue beneath the peritoneum. As in such cases the peritoneum is generally already infected, the selection of the operation will turn upon the questions of cleansing and draining the abdominal cavity. The abdominal cavity can be cleansed as well through the vagina as through the abdomen, but the opposite is true of the pelvic cavity.

The matter of drainage is closely allied to that of cleansing, for it is doubtful whether general drainage can be maintained for a longer period than thirty-six hours, so rapidly do adhesions form about drainage tubes, or gauze, and raise a wall around the particular area in which the tube rests. The vagina is the anatomical drain for the pelvis, and because of that fact, will serve to remove fluid from the cavity better than through a supra-pubic opening; but is not one other contributing cause of the failure, the injudicious use of drainage in abdominal surgery? What do we hope to gain by this adjunct to our operation? What do we seek to remove by this me-

chanical aid? If we leave the abdomen clean, and should we ever knowingly leave it dirty, what is there to drain away? Routine drainage of the abdomen is borne in uncertainty and fear. Uncertainty of our technique, fear that we have left something behind that we should have removed.

I am fast reaching the belief that we should never attempt general abdominal drainage. First because there is no reason to expect that it can be effective; second, and principally, because we should never be satisfied to conclude the operation until we are confident that the cavity is surgically clean. We may with reasonable certainty of success drain multiple small areas, those into which the drainage tube can reach and leads. Thus we can, and should, drain sacks that cannot be removed, and cavities that secrete fluid, but I question greatly whether the best ends of abdominal surgery are served by extending drainage beyond this application, and I am inclined to attribute some of the failures to a too wide use of this helpful, but much abused, adjunct to abdominal surgery.

The possibility of general infection taking place through the drainage canal I regard as rather remote. For while bacteria are found in abundance in the gauze or other material used for drainage, it is not probable that these were present at the time the gauze was introduced into the wound. The general cavity, that from which absorption takes place, is shut off before the infecting organisms lodge in the drainage material, and therefore any infection that takes place from the drainage will be local, and will show itself in suppuration of the drainage canal rather than in a general systemic intoxication.

The material used for ligatures and sutures and their application will have much to do with the failure or success of gynæcological operations. Let us remember that a ligature has fulfilled its use when the vessel it constricts is firmly enough closed to resist the blood pressure; hence absorbable material forms the ideal ligature. The same is true of sutures. Silk possesses all the requisites save that of absorbability, for it is probable that in the majority of cases it becomes encysted before it is absorbed. Cat-gut possesses all the requisites, for though difficult to harden, and still more difficult to render asceptic, it is possible to comply with both of these essentials,* and I have latterly abandoned in my abdominal work, the use of all other ligature material in favor of specially prepared cat-gut, with gratifying results.

Another point of first importance, so far as the relief of pain by the operation is concerned, is the method of applying ligatures. The old method, practiced by Lawson Tait, and many other prominent surgeons, of transfixing a mass of tissue to secure one small artery, and tying the whole, nerve, cellular tissue and peritoneum, in a pedicle, cannot be too warmly condemned. We must rid ourselves of the belief that we require a pedicle in abdominal surgery. Our aim is to secure the arteries, and this is all we should do. In the *first* place the pedicle, for example, of the broad ligament in oophorectomy, of necessity, contains nerve fibres, which then assume a function allied to the peripheral nerves, and being constricted set up far-reaching as well as local disturbances; in the *second* place, constriction of tissue—the pedicle—leaves a mass unprovided with nourishment, the organic fate of which is problematical. There is no doubt the many cases of post-operative suppuration and pelvic abscesses have their origin in a sloughing pedicle, and the reason more of these cases are not fatal is, that the region of the pedicle is closed in by peritoneal adhesions before the destructive process begins.

We must disabuse ourselves of the impression that the rules for abdominal surgery are different from those that belong to operations in any other parts of the body. They are absolutely the same. In amputations of the leg we would not think of including a nerve or muscle with the ligature that secures the femoral artery; why therefore should we gather up the broad-ligament or the Fallopian tube when our object is to ligate only the ovarian artery? Or why should we include a portion of the vagina, and a portion of the peritoneal layer of the broad-ligament when we secure the uterine artery? The sound surgical principle applies here as elsewhere: include only the arterial coat in the ligature, otherwise the outcome of the operation must be uncertain, and may result in failure if not in disaster.

(*To be concluded.*)

*I have elsewhere in THE TIMES given my formula for the preparation of cat-gut.

ECZEMA AND ITS TREATMENT.

BY WILBUR N. HUNT, M.D., CENTRAL CITY, NEB.

ON the part of the general practitioner the subject of dermatology has in the past been much neglected, and has failed to receive the attention it deserves, either from the medical student or from the physician in active practice.

For this condition I am of the opinion that our colleges are largely to blame. The applicant for a diploma must be tolerably familiar with the diagnosis, symptoms, and treatment of many diseases of which he may never see a case, but he may know little or nothing of the most common skin diseases, and yet be allowed to go out among his fellowmen as a fully equipped Esculapius. He must be ready to give the anatomical characteristics of Addison's disease, of which he may see a case or two in a lifetime, and about which he would have abundant time to read up, but is not required to know the symptoms of eczema, which will come to him for immediate treatment almost every week of his professional life. Surely there ought to be a basis of instruction in these practical subjects on which the physician could build after receiving his diploma.

The statement is made that of 3,000 physicians in attendance at the New York Polyclinic not 1 per cent. could correctly diagnose eczema. "Brethren, these things ought not so to be."

When we consider that a much greater portion of the physician's effort is expended in relieving pain and distress than in the actual saving of life and then recall the vast amount of suffering to

which eczema gives rise, we realize how important it is that we should be able to handle this disease with a reasonable amount of skill. From my own observation I am satisfied that a great deal of foolish work is done by the general practitioner in the management of this most common of the skin diseases, and it is for this reason that I bring the subject before you for discussion at this time. A short time ago a young lady came to me with a mild case of eczema and told me she had already consulted one doctor, who informed her that she had a "skin disease," and that it was useless for her to take treatment as she could not be cured. Suffice it to say she now has a clear, healthy skin in spite of his unfavorable prognosis.

It is said that Hunter divided skin diseases into three classes, "those that sulphur would cure, those that mercury would cure, and those that the devil couldn't cure." Substituting arsenic in the place of mercury, it would seem that a great many physicians of the present day adopt the same classification for eczema. While this may be a very simple and easily remembered division, it does not conform to the facts, and gives the devil more than his due.

Eczema is an inflammation of the skin, of which the common symptoms are redness, thickening, moisture, crusting and itching. Unfortunately, it has no characteristic lesion, but may bear some resemblance to almost every other disease of the skin.

For the purpose of diagnosis, the classification which has been most satisfactory to me is that of Fox, viz., erythematous, papular, vesicular and pustular at the beginning, any one of which may later become crusted, scaly, fissured, or ulcerated.

As regards treatment, the division which is most useful is that based upon the grade of inflammation, viz., acute, subacute and chronic. It should be remembered that this division is dependent on the pathological conditions rather than on the length of time of the existence of the disease, as it may continue acute through a long period of time, or may become chronic very early in its history. Two or more of these forms may co-exist in the same subject, and one form is very likely to pass into another as the disease progresses.

As to the cause of eczema there has been much discussion, some maintaining that it is toxic in origin, and others that it is of parasitic origin. Up to the present time the question is still undecided, the micro-organism, if there be one, not having yet been discovered. In infancy, the cause seems to lie very largely in improper food and imperfect digestion, and these also have considerable influence on the causation of the disease in the adult. But here other factors enter in, and it is extremely difficult, and often impossible, to decide with any degree of certainty as to the cause other than the simple fact that the patient has a peculiar diathesis toward eczema. It is quite certain that a debilitated condition of the system, from whatever cause, is a predisposing factor of no small importance. As with other inflammations of the skin, there is a popular notion with the laity and with some physicians that the coming out of the eczema is somehow of great benefit to the patient, and that its sudden disappearance is a sure sign of disaster. As a matter of fact, inflammation of some internal organ may cause a skin eruption to recede, but it is always a result, and never a cause, of such inflammation. As has been well said, "the coming out of an eczema is never a fortunate thing unless it comes out on some one's baby other than our own." It may be safely said that the quicker an eczema is cured the better it will be for the patient, if not better for the reputation of the physician in charge of the case.

In the treatment of eczema it is evident there is no specific, as the numerous remedies advertised as sure cures would clearly prove. Perhaps in no disease, local in character, is it more essential that the physician have a thorough knowledge of general medicine than in this one, but in my judgment eczema would always be looked upon as a curable disease, and when failure results from treatment the doctor is at fault rather than the disease. Some authors maintain that in many cases local treatment only is needed, while others take the same view regarding internal treatment. It may be stated, however, that the prevailing opinion at the present time is largely in favor of both local and systematic treatment in every case of eczema, and with this opinion I fully concur.

Most of the cases that come into our hands are either acute or sub-acute in character, and the local treatment in these cases should be of a mild and soothing nature. In the chronic forms stimulating applications should be used, such as the ointments of mercury, salicylic acid, sulphur, or oil of cade. In eczema intertrigo or eczema of chafing a solution of nitrate of silver, 3 to 40 grains to the ounce, is almost a specific. In moist eczema, soap and water should be avoided; but in the dry, crusted, or scaly cases the daily cleansing with soap and water will be of benefit. As to the internal treatment, I have usually first sought to correct any errors of digestion, after which, in acute and sub-acute cases, an alkaline treatment will often result in a speedy recovery. In these forms I am decidedly of the opinion that arsenic and antimony should never be used. In chronic cases these remedies are often useful, although some authorities say we should discard them altogether. In debilitated subjects, the alkaline treatment would be inappropriate, and here a distinctively tonic course will usually be found beneficial. Before giving up a case as hopeless, or turning it over to a specialist, be sure to keep the patient for at least two months on small doses of sulphur.

While these are but mere hints as to treatment, I believe that by following out the plans suggested we shall be able to cure a large portion of our eczematous patients.

THE EXTREMES OF NASAL SURGERY.

By J. P. Thorne, M. D., Janesville, Wis.

THE rapid and remarkable progress of rhinology during the past few years has resulted in considerable variance of opinion regarding

nasal surgery. This variance is not an indication of confusion, but shows different minds working along different lines for the same desirable end —the utmost possible good to the patient.

In previous years not enough attention was given to nasal diseases, but to-day the majority of the profession recognizes the importance of nasal diseases, not alone for their primary local effects but also for their secondary effects on the eyes, ears and the accessory parts, their effects often on the general health and their reflex manifestations.

Nasal surgeons can be conveniently considered in three classes—those who do too much surgery with not enough attention to hygiene and general treatment; those who do not do enough operative work, and those who do all the surgical work really required, giving proper attention to details, but who are conservative enough not to perform unnecessary operations.

The first two classes are those who are practicing the extremes of nasal surgery. The latter class to-day represents a large proportion of those engaged in the practice of rhinology. At the present time the mean between the two extremes is being reached.

The object of the nasal treatment should be to restore the nose to its normal condition as nearly as possible. The relationship and functions of the parts should be as perfect as we can make them.

A few years ago we often heard of many remarkable, quick cures. A case with nasal obstruction and its attendant difficulties came along, and everything which extended into the nasal passages was removed. Nasal obstruction was immediately relieved, a brilliant cure reported and probably the case dropped out of sight; but this was not the end; instead of everything being lovely with the patient, an atrophic rhinitis and a pharyngitis sicca resulted from this extreme nasal surgery. This occasionally happens to-day, but not with the frequency it did a short time ago. The mucous membrane and turbinals have functions to perform and have an important place in the nose. They warm, moisten and cleanse the respired air, and as much mucous surface as possible should always be preserved.

The proper thing for us, as nasal surgeons, is to adopt lines of treatment which give the best and most permanent results.

While preparing this paper I wrote to a number of rhinologists in different cities who are considered authoritative, and obtained their views on the subject. One question which I asked several was: "What per cent. of cases of nasal disease are cured without any surgical treatment?" The answer from all was "almost none," so we need give little attention to this extreme.

In putting the nasal passages into a normal condition the following are our general outlines.

In all cases the general health should be improved to its highest standard. All constitutional dyscrasiæ should receive attention, such as rheumatism, syphilis, tuberculosis, etc. The hygienic condition of the patient and his surroundings should be the best possible. Such local medication as the parts need should be used. Any tumors, if present, and septal deformities and excrescences, if of any size, should be removed.

Hypertrophies of the turbinals should always receive proper and careful attention, as this is a condition so frequently encountered, and on the treatment of which opinions differ, I will give it some attention. True hypertrophy of the turbinals must always be removed by some method, or we shall not make a success of our work. After treating many cases by different methods and watching the results for a series of years in my own and others' patients, I have seen the best and most lasting results from the proper use of the galvano-cautery. I reduce hypertrophies of the inferior turbinal by a careful submucuous linear galvano-cauterization. By this method I destroy very little mucuous surface, but do destroy the new growth which must be removed in some way. In treating the middle turbinal care must be used with any method, but the galvano-cautery is a success if carefully used.

The reason the galvano-cautery has fallen into disrepute with some is because they have burned through the nose indiscriminately, destroying a large mucous surface, and are now reaping a benefit of trouble from their extreme cautery work. The following from a recent letter from Prof. Joseph S. Gibb, of the Philadelphia Polyclinic, represents the opinion of a large number of the profession to-day:

"Anterior hypertrophies, if very large, I remove by scissors, or transfixion and snare. Much the larger number, however, I treat by galvano-cauterization. Posterior hypertrophies, if large, are removed by snare; the smaller by galvano-cautery. In answer to the question: 'How much do I use the galvano-cautery?' would say I use the galvano-cautery in by far the larger number of cases of hypertrophy of the turbinals."

While many good operators are using chromic acid, yet I do not think it equal to the galvano-cautery *properly* used. Chromic acid, as generally used, causes a large superficial slough, destroying too much mucous surface; it is apt to be followed by considerable inflammatory reaction, and often causes systemic poisoning. If used, the method of submucous cauterization advocated by Dr. Norval H. Pierce, of Chicago, is preferable, but even then I believe the galvano-cautery is to be preferred, and will give better results.

I have thus briefly outlined some of the general principles of rhinology which, in my opinion, will produce the results we are working for—the permanent good of our patients.

Rhinology to-day occupies an honorable position, and by careful attention to hygiene, general and local treatment and appropriate surgery, we can add to the luster of our science. The successful nasal surgeon avoids all extremes, uses good judgment, practices conservative and good surgery, and conquers the difficulties before him, thus benefiting his patients and adding to his honor and to the honor of our great profession.

The Boston *Journal of Medical Science* has been enlarged to octavo size, and will contain the cream of reports from the medical schools and hospitals of Boston.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D., Fellow of the Academy of Medicine, New York.

Linseed Tea in Diabetes.—Prof. H. W. Vogel recommends very highly the employment of the above remedy in diabetes (*Arzn. Rundschau*, Vol. VII, No. 12, p. 182). He used it in a case of diabetes mellitus of seven years' standing, and by a systematic employment of the linseed tea he always succeeded in reducing the amount of sugar from 3 and 4 per cent. to 0.1 per cent. or even 0. The tea is prepared by putting a tablespoonful of flaxseed in 900 c. c. (2 pints) of water, boiling until the volume is reduced to 600 c. c. (20 oz.); it is taken in three divided portions through the day. This linseed tea treatment is now being tried in the Berlin City Hospital, Friedrichshain. The author calls attention to the fact that, in conjunction with this treatment, the rules of the diabetic hygiene and diet must be strictly complied with.

Massive Injections of Artificial Serum in Extensive Burns.—These have been found remarkably beneficial in combination with antiseptic and soothing dressings by Prof. Tommaselli, of Palermo. Two observations are described in the *Semaine Med.* of July 21 (*J. A. M. A.*) In one case more than two thirds of the front of the body was burnt. The first day 250 grams were injected, increasing to 500 the fourth, and continuing this to the nineteenth day.

Thyroid Medication in Fractures.—G. Gauthier (*Sem. Med.*, July 14), has found that fractures in which consolidation does not promptly occur, can be favorably influenced by administering thyroid extract. He reports two cases thus treated, and states that the successful consolidation took place rapidly and was complete, after the failure of other treatments, for 110 days in one case and three months in the other. He urges others to experiment in the same line, which was indicated by the success of the thyroid extracts in the development of bony tissue in myxedema.

Splenic Extract in the Treatment of Graves' Disease.—Dr. Horatio C. Wood, in an article on "the ductless glands," which may be found in the *American Journal of Medical Sciences* for May, 1897, reports marked results in the treatment of exophthalmia by splenic medication. He found two practical difficulties attending the administration of the extract, namely, it produces derangement of the digestion when given by mouth, and great local irritation and even abscesses when administered hypodermatically, although, of course, this does not always follow. The improvement in some of his cases began not a great while after the commencement of the hypodermic injection and continued until the enlargement of the thyroid gland had entirely disappeared. The general nervousness also vanished and exophthalmus lessened, while the cardiac action was greatly reduced, the heart remaining irritable on excitement. Dr. Wood, therefore, asks that the profession should give splenic extract a very careful and persistent trial in exophthalmic goitre. He closes by saying that in using the extract of any of the ductless glands it must always be remembered that, if any good is achieved, it is probably the result of an addition of certain substances of the body which are normally formed in the body in sufficient quantity for its needs, but which, through accident or disease, the system has failed to supply itself with. It follows that there are usually two stages in the treatment of such a case. The first, in which the material must be given largely to put an end to the results of its long-continued absence. The second, in which the substance must be given in small doses to maintain the balance of function which has been restored. Thus, in myxedema, for the first months or years thyroid extract should be given in as large a dose as the patient can bear. Afterward when the myxedematous condition has subsided, the gland must be given continually in small doses, probably during the whole life.

RETROSPECTIVE DIETETICS.

Artificial Food Preparations.—Klemperer mentions (*British Med. Journal*) that these preparations may be made from albuminous, carbohydrate and fatty bodies, but that the first named are most often employed. Albuminous substances are no longer regarded as possessing the enormous value for nutritive purposes formerly attributed to them. As regards albuminous artificial foods, it was attempted formerly to convert all the albuminous substances into peptones, but it was found that pure peptone irritated the stomach and might produce diarrhœa. Then it was recognized that in gastric digestion the process did not always end in the formation of peptones, but stopped short at the albumose stage. In most of the preparations now made bearing the name of peptone there is a large proportion of albumoses and little peptone. By the introduction into the body of such albumoses the work of digestion is lightened, but this saving to the stomach is not always desirable, even when hydrochloric acid is absent from the stomach a sufficient conversion of albuminous food stuffs into peptone and albumose occurs. What the stomach cannot accomplish is effected by the intestine. The author states that all finely divided or soluble native albumens are as valuable as the same amount of albumose. Albuminous substances, powdered or in a soluble form, are thoroughly to be recommended in most cases. Soluble albumens have recently been introduced in the forms of nutrose and eukasin.

Klemperer discusses the question of the quantity of these artificial food stuffs to be provided, and contrasts the price paid for the amount which would correspond in nutritive value to ordinary articles of diet. The meat extract preparations contain only some 20 per cent. of the albuminous substances in meat. The constituents of meat extracts are harmful to the gouty, to those with renal disease, etc. According to present opinion, carbohydrates are very necessary to the debilitated and to the febrile.

Here allusion is made to the various forms of flour (leguminose, etc.) prepared as soups. They are valuable in the feeding of patients. The author refers to the artificially prepared carbohydrate food stuffs containing dextrin, maltose, etc. When salivary digestion is at fault these preparations are of value. In adults the author thinks it is rarely necessary to substitute the artificially digested for the natural carbohydrate food stuffs. Malt extract is of considerable value, as it contains 53 per cent. sugar and 15 per cent. dextrin, but there are substances like honey which are much cheaper and for most individuals equally good. The author employs honey, milk, sugar and similar preparations. He thinks that the use of beer containing peptones is illusory. There are so many good fatty products, such as butter, cream, cod-liver oil, etc., that artificial preparations are almost unnecessary.

The author thinks that it is very desirable to return more to natural instead of artificial products.

In an extended article on "Food Nostrums," as found in this country, Dr. Charles Harrington (*Boston Med. and Surg. Jour.*, September 16) says that during the past fifteen years he has had occasion to analyze a very large number of these foods, and is prepared to assert that he has yet to find a patent food which is not either a quite unnecessary and comparatively expensive substitute for ordinary food, or capable of producing harm rather than good.

He concludes as follows: "We attempt to educate the people as to the desirability of purity in the common articles of food, so that they may understand the dangers of adulteration, and then we leave them the helpless prey of the crafty medical food specialists. We ought rather to continue to teach them that it is to their physical and pecuniary advantage to avoid nostrums of all sorts, and that the proper feeding of children and the sick can be carried out more intelligently, more beneficially and more economically with the food materials in common use, which need no fancy names and claim no medicinal virtues."

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EDITORS

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WHEN life has been well spent, age is a loss of what it can well spare. But the central wisdom, which was old in intancy, is young in fourscore years, and, dropping off obstructions, leaves in happy subjects the mind purified and wise.—EMERSON.

OUR SILVER ANNIVERSARY.

Then to side with Truth is noble when we share her wretched crust,
Ere her cause bring fame and profit, and 'tis prosperous to be just;
Then it is the brave man chooses, while the coward stands aside,
Doubting in his abject spirit till the Lord is crucified.
—LOWELL.

TWENTY-FIVE years! How small the point they leave on the dial of time, and yet they may have held in their grasp the germs of great principles, the elements of progress, whose unfolding have ripened into a unity of strength and harmony of thought and purpose for which even the preceding centuries have been preparatory. We are seated alone in the quiet of our sanctum, in a half doze, for the day's work is over and the night's rest is at hand, when from out the thronging memories of the past, which seem to move like a living panorama across the horizon of the brain, are slowly evolved three forms, living, moving, speaking with as stately a presence as when upon earth. There was a kindly smile on each face and a benediction in the outstretched hand. They were Hossack, dignified and stately as of old; Carnochan, with his clear-cut classic face, his thoughtful brow, his courtly manners; Gardner, with his genial smile, his frank, honest look, his eye clear and penetrating, in whose liquid depths there was no guile. These three men in those days of tribulation—when the ban of a great school, glorying in its antiquity, was resting with iron force upon a few men groping for truth, studying a new philosophy outside of established dogmas—were the only surgeons in this great city who would give aid or counsel or fellowship in the least with what was then claimed as a pestilential heresy.

Dr. A. K. Gardner had for years been recognized as the leading gynæcologist in the city. A Harvard man, with rare literary culture, he attracted the attention of the American public when a student in Paris by his correspondence in a Boston paper, afterward published in book form, entitled "Old Wine in New Bottles." The wit, the sparkling brilliancy of thought and the elegance of diction, placed the young writer immediately in the front rank of literary men. As an editor and author of works pertaining to his specialty he had no superior. His skill as a specialist was so widely sought for as to bring him a very large income. An old classmate, of the new school, sought his aid in consultation, and requested him to attend his wife in her confinement. For this he was brought to trial before the county society. Admitting the consultation, admitting also he had attended the wife of his friend and *without charge*, because he was a physician, he was suspended from the society. With suspension came loss of practice. Consultations almost ceased. Old friends passed him with cold or averted looks, and an almost princely income, boycotted as he was, dwindled to almost nothing. Years passed away, not many, for public spirit was revolting at the intolerance of priest and physician, when one morning an officer of the society brought with him the announcement that the suspended physician had been reinstated and placed in full fellowship with his brethren in the profession. *Too late, too late!* While the message of recall back to his old comrades and old friends waited at the door, up stairs the body of the loyal friend, the skilled physician, the martyred hero lay, coffined for the grave.

This was a fair type of the feeling which prevailed in the medical profession twenty-five years ago. There was no independent medical journal recording, without fear or scornful criticism, the thoughts and facts of earnest minds bound by the chains of no exclusive dogma or sect. There was no unsectarian medical college, no broad platform upon which scientific thinkers could stand and discuss calmly and dispassionately great questions where every well-attested fact would have its full weight in the chain of argument. Brought up in the old school of medicine, as we mingled with the great army of workers, we felt as many others must have felt, as truth flowed into the mind from various sources, the great uncertainty of our pro-

fession, the vast amount of empiricism which existed and that no one dogma, however much of truth it contained, was far-reaching enough to hold in its grasp what our profession elevated to the dignity of a science and linked as it is with all sciences would be.

And so the plan grew of a medical journal; a slave to no party and to no sect; a journal which by its fair and impartial presentation of well-established facts might harmonize in the cause of truth the discordant elements of the profession in a bond of mutual respect for brethren working earnestly in the same cause.

In our salutatory we said: "Extending the hand of fellowship to all honest, intelligent workers in the great field of scientific research, we shall strive earnestly for that time when party walls shall be leveled and all sectarian names merged in the broader one of physician. The question forever foremost in our minds will be, 'What is truth and how can we best bring the teachings of nature to subserve the interests of humanity?' In every earnest worker we recognize a friend and brother, a co-worker in the same great field, actuated by the same purpose, striving for the same end."

Among those to whom our plan was submitted was Dr. A. K. Gardner. Meeting with his warmest approbation, he was invited to contribute the initial article to the new magazine. In it he said: "Is it necessary for me in commencing an article in the initial number of a new magazine, one of whose aims it is to reunite the profession and to contribute to whose columns I have the honor of being invited, is it necessary for me to say to my friends, the profession and the community that I am unchanged in belief and practice, differing in no respect from what I was when a member of the New York Academy of Medicine; unchanged save in toleration? What the Christians of Catholic Rome, what the Protestants of more recent days, what the Pilgrim Fathers even, never learned—respect for the honest opinions of those who differ—that I have learned."

It could hardly be expected that a thoroughly non-partisan journal, imbued with the spirit of toleration, respecting the honest opinions of those who differ, welcoming thoughts based upon well-established facts from any source, treating all with courtesy, would find no misrepresentation, no bitter antagonism and no relentless persecution. The history of the world shows that in some the animal so far preponderates that the oppressed of to-day become the oppressors of to-morrow, and that many pleading loudly for toleration when in the small minority are the least tolerant, especially among themselves, when they feel the stimulant of power. Our journal sought to bring about a harmony in the medical profession based upon toleration, upon freedom of thought, upon scientific investigation, and upon that mutual respect and courtesy which would naturally be expected in a learned profession where there is so little really known and so much to learn. It was natural, perhaps, for those who entered the profession as one would enter a mercantile life or a trade with the sole idea of accumulating wealth and willing to stoop to tricks of trade not always honorable, especially men comparatively young in the ranks, puffed with conceit, tools often of older heads, to accept the idea that in relinquishing a trade-mark to which their work did not entitle them they were sinking to the level of simply physicians and relinquishing a broad and popular avenue to wealth and power.

The new journal started with a distinct object in view, from which it has never swerved, and in the carrying out of which it has never faltered. For the abuse and misrepresentation, personal and journalistic, coming mostly from would-be leaders of the new school, couched often not in the most courteous language, we have had no reply, but have ever defended our principles with all the ability, with all the power we possessed. We believed in the triumph of those principles, and now that the brightening skies tell of a better day we thank God that THE MEDICAL TIMES has been an important factor in the good work. The principles for which we contended are being vindicated.

FORMOL, OR FORMALDEHYD.*

THE extremely opposite opinions held and expressed by equally reliable authorities in regard to the antiseptic or germicidal qualities of formaldehyd gives sufficient reason to offer a few observations upon its characteristics, and some practical suggestions as to the conditions necessary to secure the fullest antiseptic power of this invaluable chemical.

"Formaldehyd—*formol hydrid*—H, C O H—30—is formed when air charged with vapor of methylic alcohol (wood spirits) is passed over an incandescent platinum wire. It is also produced by the dry distillation of calcium formiate."

WITHAUS.

The antagonistic views of scientists as to formol's ability to destroy bacteria arise from a misunderstanding of its true character and the

* Formalin is a name given by a firm of chemists to a 40 per cent. solution of formaldehyd, and a preparation of the same in pastilles prepared by them.

consequent pre-requisites demanded to develop its whole force as an antiseptic. In the first place, let it be distinctly understood that *at ordinary temperatures formaldehyd does not possess the same power to penetrate substances that is exercised by chlorine gas and sulphurous acid gas.* These latter never leave their gaseous form at any ordinary temperature; by the combined action of *cold and pressure only* can they be made to liquefy. It is important, as a matter of convenience, to make a distinction between gases and vapors. Referring again to Withaus, he says: "A vapor is an æriform fluid into which a substance, solid or liquid at the ordinary temperature, is converted by elevation of temperature or by diminution of pressure. Since the liquefaction of the so-called permanent gases, the distinction between gases and vapors is only one of degree and convenience."

Now formaldehyd *is only vaporized* by a certain elevation of temperature, and if this vaporization is maintained by the presence of sufficient heat it will penetrate every porous substance within its reach, more or less deeply, in proportion to the intensity of the heat of the surrounding air. This diffusion of its antiseptic vapor becomes more and more limited as the temperature falls lower and lower. At a moderate temperature its vapor may effectively attack bacteria which are fully exposed upon the surfaces of objects; if, however, any obstructing tissue, like cloth, intervenes, the formaldehyd may condense in a liquid form upon the exterior of these fabrics, especially if they are cool, and in consequence many bacteria hidden behind or within these substances may not be reached and destroyed.

To repeat, in order to procure the thorough antiseptic action of formaldehyd it must be treated not as a comparatively permanent gas, but as a vapor which is readily liquefied by moderate cold. Therefore, when applying it, a fairly high temperature must be sustained long enough to permit its vapor to permeate every fibre, from circumference to center, of the material exposed for purification.

It is objected that the required heat is in itself an effectual sterilizing agent, but it must be remembered that air hot enough for sterilization is not needed; only sufficient heat is necessary to maintain a perfect vaporization until all articles present are thoroughly invaded by the antiseptic; then, if the heat be withdrawn, the subsequent condensation causes saturation of every fabric and increases the destruction of the bacteria.

In small, tight closets enough heat may be generated by the vaporizing lamp, but in larger spaces several lamps or some other heating apparatus should be employed to prevent the formaldehyd vapor from returning to a liquid state.

Properly managed formaldehyd will prove to be one of the surest and best, if not the best, antiseptic within our reach.

Dr. John S. Billings, of the Astor Library, says that 1 cubic centimeter of formalin to 300 cubic centimeters of space will thoroughly disinfect any book, when placed under a bell-jar in fifteen minutes. The formalin is used in the form of vapor.

BLESSINGS IN DISGUISE.

POSSIBLY the frost which a few years ago wrought such destruction of citrus property in the northern and central part of Florida, causing the loss of millions of dollars in a single night, may after all have been a blessing in disguise. The growth of citrus fruits had up to that time been almost the sole dependence of a large portion of Florida; but as the people looked out in the morning upon groves which the night before had been bright and beautiful in green foliage and laden with ripe yellow fruit, but were now black from the death grip of the frost, not only ruin but starvation seemed staring them in the face. The soil was there, and it was not long before the practical truth dawned upon their mind, that it could be appropriated to other and quite as profitable uses as the growing of citrus fruits.

Under the force of necessity one industry after another developed; choice garden vegetables and fruits found a ready and profitable sale. The camphor tree, which hitherto had been grown in the State only for its beauty, was found could be as profitably utilized here as in its native home in the East. Science had found in the carica papaya or papaw tree, of South and Central America a valuable remedy in digestive troubles originating in the stomach and bowels, of equal value in stomach indigestion with pepsin, and superior to that popular remedy where the trouble existed in the lower stomach and intestinal canal. Noticing that the natives used the juice of the fruits and the sap of the tree to make their meat tender, and even hung it upon the branches of the tree to produce the same effect, Wurtz directed his investigation to discover that ferment which was evidently the cause of the wonderful virtues of the tree. To the active principle when discovered he gave the name of papain, which pharmacists utilized in various preparations. The remedy is somewhat expensive, but such excellent results have followed its use as a stimulant

to the salivary glands in digestive disorders, and as a solvent to false membrane, especially in diphtheria, without any injury to the living tissues, it has become quite popular. The tree grows to the height of about twenty-five feet, like the cocoanut tree, without branches, sending out at the top horizontal stems, with palmeti leaves nearly three feet long. The fruit is juicy, full of seeds, and very much resembles a melon. The tree grows rapidly and bears fruit all the year. The tree is well adapted to the soil and climate of Florida, is very productive, and where a small amount of capital is invested in the plant to extract the papoid will not only prove very profitable to the grower, but so lessen the cost to the public that it will become a most important article of commerce.

FROM the report of the Health Department we learn that notwithstanding the torn-up condition of our streets the death rate for the past summer is lower than since 1892, being 20.96, as against that for 1896, 24.25; for 1895, 24.73; for 1894, 22.18; and for 1893, 23.83. As an evidence of the close inspection maintained by the department upon food 2,578,448 pounds of milk, fruit, meat and fish was seized and condemned during the months of June, July and August. The chemists were kept busy in making analysis of drinkables, 768 in all; among them 57 beer, 293 of milk, 83 of water and 23 of whiskey. The excellent work of the Health Department in its watchful care over food of the cheaper kind, which would naturally find its way among the poor; the free services of a large corps of physicians, and the daily free trip to the ocean, all this contributes much to a death rate quite as low as in cities of much less population.

SOME of the coal tar preparations have proved so beneficial in the relief of pain, more especially in those forms which may be called nerve lesions, that there is danger of time being wasted by their use when not indicated. In a perfectly normal labor, where the pains go on with regularity, anæsthetics give the only sure promise of relief. But in the preliminary stages of labor, when the pains are of a spasmodic character, and are so excessive as to reflexly interfere with the proper uterine contraction, just that stage which we are accustomed to control with morphine, some of these preparations, either alone or in combination with other drugs, produce the most charming results. In threatened miscarriage, or in the relief of after pains of a spasmodic character, the effect is manifestly beneficial.

IT will be remembered that the old building of Bellevue Hospital Medical College was destroyed by fire several months ago. The corner-stone of the new building was laid in the hospital grounds by Dr. Lewis A. Sayre, who laid the corner-stone of the first building. The corner-stone contains among other things a small vial of diphtheria antitoxin and a tube of spores of the bacillus arrogenes capsulatus. The new building is located on the corner of First avenue and Twenty-sixth street, adjoining the Carnegie laboratory, and will be six stories high and 75 by 100 feet dimension. The proposed union at an earlier day fell through on account of a failure to harmonize in the appointment of professors.

DR. LANDON CARTER GRAY, in retiring from the presidency of the County Medical Society, said in respect to the abuse of medical charity:

"In consequence of the expected criticism on the part of the schools, colleges and dispensaries, it was thought useless to take it up again, but it was only a few days ago that the president of one of the leading colleges of the city came to my office and actually bubbled over with enthusiasm in favor of having this long-felt abuse either regulated or mitigated.

"If the present effort in that direction fails it will be because of the want of unanimity among the members of the medical profession itself. The committee having the matter in charge deserves the highest commendation for the good work already done."

Dr. Arthur Middleton Jacobus, the newly elected president, in outlining the work of the society for the year, advised a quarterly conference between the representatives of the medical societies of the counties of New York, Kings, Queens and Richmond, in order to devise means to meet what he termed the "autocratic rules of the Health Department," as it will be after January 1. He condemned the free treatment and vaccination of school children by physicians in the employ of the Board of Health.

"The family physician," he said, "is capable of performing such service, and if the people are too poor to pay for such services then let it be done under the auspices of the charity organization. It is time we should awake from our lamblike complacency and assert ourselves as medical men and members of this honorable body. As it is at present, grievous abuses of medical charity exist. That charity ought to be limited to the deserving poor. The matter is one for our Legislative Committee to give serious thought to and seek relief by an

appeal to the Legislature. If the members of the medical profession as a whole stood shoulder to shoulder as lawyers and the members of other professions do there would be little cause for existing grievances.

"Then, too, should we labor to abolish the practice of midwifery and all its horrible malpractices."

Dr. Jacobus complained that the air-tight, asphalt pavements had the tendency of forcing noxious gases into the houses along the thoroughfares so paved—an idea already exploded.

A special committee was appointed to consider the existing relations between the Health Board and the society, and report.

Dr. James Hawley Burtenshaw submitted a supplementary report on behalf of the Committee on the abuse of Medical Charity. Copies of the new Dispensary bill which it is proposed to submit to the Legislature at its next session were distributed, and it is almost identical with that which Governor Black refused to sign last April.

DR. JOHN GUITERAS, in a report of his work of observation in the Southwest, says that "Cuba is the natural breeding ground for yellow fever, and will continue to be as long as it remains under Spanish rule; that the Spanish authorities are criminally indifferent and negligent to the spread of the fever, and that the island in its present condition is a dangerous menace to the public health of the United States."

Dr. Guiteras also suggests that as the peril is national it should be dealt with on national lines, and that the way to do it is to extend the marine Hospital Service, as State and local quarantine regulations are inadequate, but a national system would provide an adequate safeguard against the invasion of epidemic diseases.

THE physicians of the various schools in Kansas are making an effort toward medical unity by having made arrangements to hold a joint State meeting for the purpose of promoting a broader tolerance in matters affecting the welfare of medical practice, and also by united action to protect the profession from frauds of various kinds. Our advice is to drop the sectarian designations, as one united body can do much more effective work than three as at present organized.

THE profession has been and is being constantly urged to take stock in commercial enterprises relating to articles which are sometimes prescribed, on the ground that if the physician has a pecuniary interest he will oftener prescribe them than he otherwise would. Couched in this plain language, no one can fail to see the position in which the prescriber is placed, and we feel confident that no respectable member of the profession would be willing to place himself in such a predicament.

The wily promoter will approach the medical man with his little scheme with all the assurance possible, and attempt to carry his point by storm. If he finds this does not work, he will get out his book to show the names of distinguished men who have succumbed to his sophistry. Should this fail, he will try flattery, and should all his efforts be in vain to convince one of the value of his project, he may withdraw in a huff.

Many good and true men are drawn into these nets unawares; they do not realize the position in which they are being placed, so subtle are the arguments of these promoters. The names of leading influential men naturally attract those who are not so well known, and who like to be associated with those they have learned to look up to.

It may not be necessary to caution the members of our profession in respect to these matters, but as many of us are still being constantly approached in this way, we thought it might be timely to sound an alarm, in order to save some younger colleague, perhaps, from the experiences from which many of us have suffered.

OUR right hand of fellowship to the *American Medical Monthly*. We are glad to see that Dr. Price has had the courage of his convictions, and has dropped the sectarian designation in the title of his journal. We are confident that the freedom he will feel in his cosmopolitan environment will make him wonder why he was ever restricted in his work by an appellation.

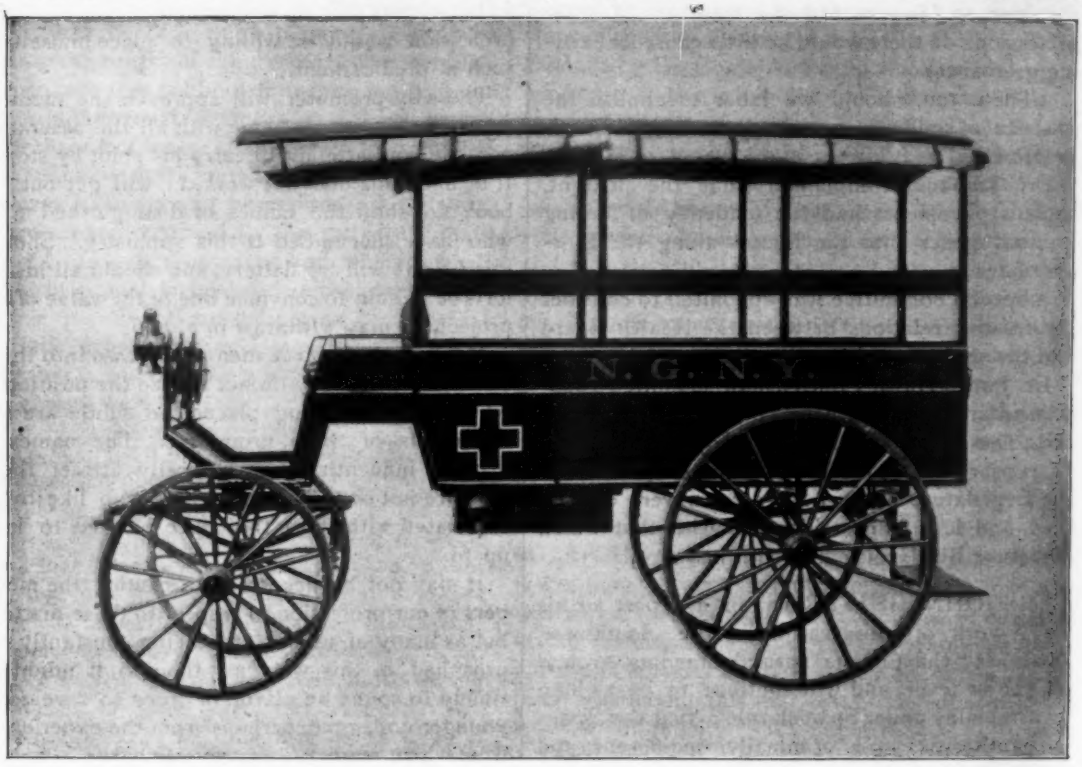
The event marks another sign of the times which lean to medical union.

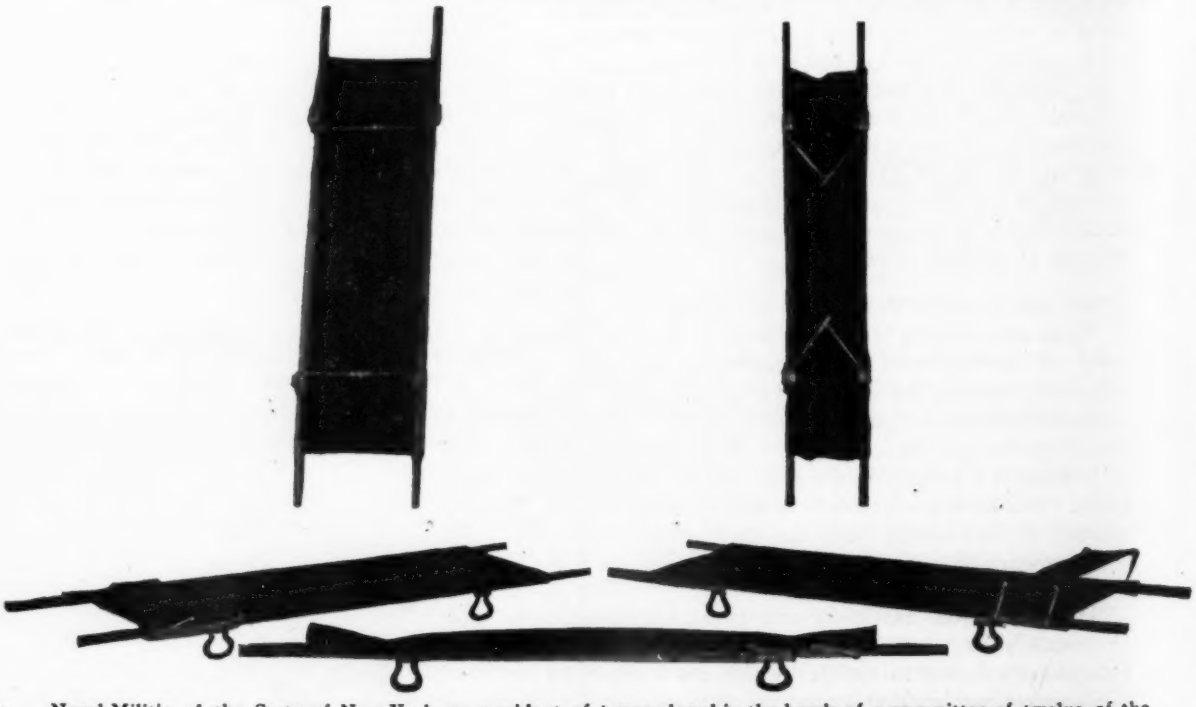
THE NEW EQUIPMENT FOR THE MEDICAL DEPARTMENT OF THE NATIONAL GUARD OF THE STATE OF NEW YORK.

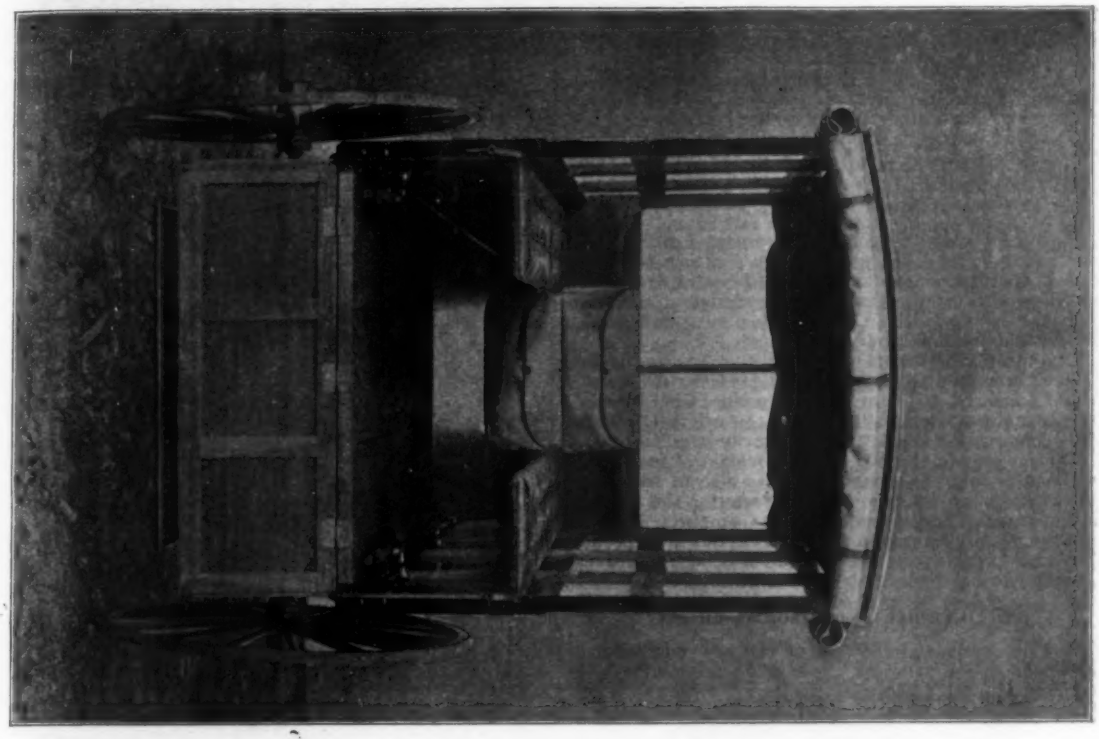
Brig.-Gen. Marshall Orlando Terry, soon after his appointment as Surgeon-General of the State, Jan. 1, 1895,

called a number of the most prominent officers of the Guard to meet him at the Waldorf Hotel, to consider the

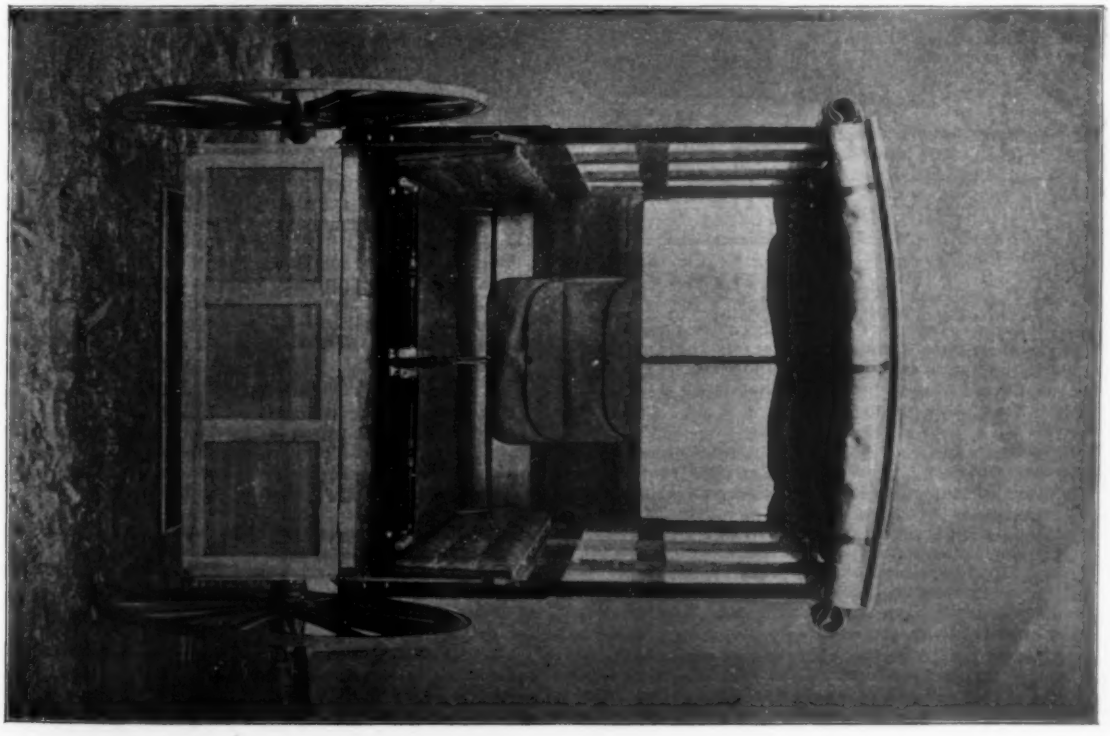
wants and to ascertain the condition of the equipment of the medical department. At a meeting of the Association of Medical Officers of the National Guard and of the Naval Militia of the State of New York, as president of that organization he earnestly requested a free discussion in reference to the needs of the department. Soon after, in order to bring the matter before the entire department, he called a meeting in New York. Over forty members were present, and after a free discussion the whole matter was placed in the hands of a committee of twelve of the most experienced officers, the Surgeon-General being a member ex-officio. A decision was reached as to what







was wanted. But there was no money appropriated for this department to improve its equipment. The previous comparative failures of his predecessors to secure the desired appropriation never daunted the incumbent Surgeon-General for one moment, for he pressed his claims for the department before the Legislature until he obtained $10,000 as a special fund with which to remodel a poorly-equipped Guard.



THE AMBULANCE.

The ambulance is the product of the consensus of opinion of the medical officers who came into camp during the summer of 1895. An ambulance was hastily gotten up for the summer tour and this was made the target for criticism. Carefully noting all suggestions five ambulances were constructed, one for each brigade and one for the camp at Peekskill. Specifications and a full description of the equipment can be seen in the Surgeon-General's report for 1896.

THE LITTERS

The litters adopted by the Government for the army were tested by this department in the presence of Major John V. R. Hoff, surgeon of the United States Army, and the Surgeon General. During an inspection of the same held in New York City, three of them bent and broke, while sustaining a weight of 183 pounds.

The litter represented in the cut is known as the "Terry" stretcher, so named by Major-Gen. E. A. McAlpin, formerly Adjutant-General under Gov. Morton, the name given being on account of the original features of its construction and for its superiority over all others. This litter is guaranteed to sustain a weight of 500 pounds and weighs only 16¼ pounds. It has also an adjustable canvas pillow, an attachment quite new for the support of the head. The suspended canvas supports nicely, is cool and readily returns to the level of the litter proper. The joint spreading the litter instead of being the weakest place is by a cap extension made the strongest.

THE MEDICAL AND SURGICAL CHEST.

Perhaps the most important of the new equipment is the medical and surgical chest, made for regiments or

smaller organizations. It was found that the regular army chest did not represent the most modern ideas in its construction and the celebrated Senn chest, although a model chest, was too small for the service of regiments. A committee composed of three of the best surgeons, Major W. E. Lambert, Major Bennett S. Beach, of the Guard, and Major John V. R. Hoff, of the regular army, was selected to devise a sample medical and surgical chest, and it was the basis for the completed chest made under the supervision of the Surgeon General.

We might if space permitted dwell with considerable length on the change of regulations, increasing the number of the hospital corps to twelve for regiments eight for a battalion or squadron, and two for each signal corps, separate troops, battery or separate company. Reference to the special enlistment for the corps shows the care taken at the State camp for instructing the men by practical teaching in the field, preparing them for active service when called out. The State has as members of the medical department of the Guard the best of medical and surgical talent, and with the equipment now furnished her officers can perform the duties in this department in a most satisfactory manner.

BIBLIOGRAPHICAL.

TWELFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA; Vols. I and II.

Dr. J. Mount Bleyer is treating tuberculosis by electrolysis, claiming that galvanism increases the amount of ozone in the blood and destroys impurities. Tests have been made on animals which show that ozone is increased three times by this process.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS IN PHOTO-LITHOCROMES from models in the museum of the St. Louis Hospital, Paris. With explanatory woodcuts and text. Edited and annotated by J. J. Pringle, M. B., F. R. C. P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part xii. Quarto. $3 per part. Contents: Syphilitic Chancre; Xerodema Pigmentosum; Impetigo Contagiosa; Urticaria Pigmentosa.

As we have said before, these plates are superb and demonstrate the affections which they represent as nearly life-like as it is possible for them to be.

A MANUAL OF LEGAL MEDICINE for the use of practitioners and students of medicine and law. By Justin Herold, A. M., M. D. Formerly Coroner's Physician of New York; Late House Physician and Surgeon of St. Vincent's Hospital, New York; member of the New York County Medical Association, County Medical Society, Medico-Legal Society, Society of Medical Jurisprudence, New York Academy of Medicine and German Medical Society of New York. Philadelphia: J. B. Lippincott Company, 1898. Pp. 678, octavo.

This book is the outcome of the author's needs as a coroner's physician and is intended for the special use of those who have no time for more pretentious works of this kind, and simplification has been attempted. The book is divided into two parts. The first relates to Toxicology, the second to Forensic medicine proper.

The author has endeavored to follow a systematic arrangement as far as practicable.

Under part first we find Chapter I. devoted to medical and legal definitions of a poison; administration, effects of, absorption, elimination, modification of the action of, and antagonism of poisons.

Then in subsequent chapters we find such subjects as evidences of poisoning; rules to be observed in poison cases; classification of poisons; sulphuric acid; phosphorus;

antimony; oxalic acid; animal irritants; opium and morphine; anæsthetics; nux vomica and strychnia; belladonna and atropine; tobacco and nicotine; hydrocyanic acid and ptomaines and other putrefactive products.

In part two, Forensic medicine includes such subjects as phenomena and signs of death; medico-legal autopsies, personal identity; examination of blood-stains; wounds, burns, scalds, violence, strangulation, drowning, electricity, lightning, heat, cold, starvation, pregnancy, criminal abortion, infanticide, rape, etc., etc.

The subject of pharmaceutical jurisprudence has been written by Judge Geo. F. Roesch, is from the legal standpoint and reads well.

There is an appendix which closes with the differential diagnosis and treatment of coma.

The text reads easily and has been made by a medical man for practical use, and such a one can appreciate better than any other the needs of his colleagues in the profession. We quite agree with the author in the preface where he argues for higher education on this subject in our educational institutions, and no better text-book for this purpose could be suggested.

SIMON'S CLINICAL DIAGNOSIS.—A Manual of Clinical Diagnosis by Microscopical and Chemical Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., late Assistant Resident Physician Johns Hopkins Hospital, Baltimore. In one very handsome octavo volume of 530 pages, with 135 engravings and 14 full-page colored plates. Cloth, $3.50. Second edition, revised and enlarged.

The demand for a new edition of this book within a year is not only an evidence of its value but an encouraging sign of the widespread interest in one of the most creditable developments of modern medicine. The time is past when it is advisable for any professional man to trust his patients or his reputation to any admixture of guesswork in diagnosis. Nothing less than certainty is the requirement of the time and fortunately science can now furnish the physician with practicable methods which reduce uncertainty to a minimum. Dr. Simon has enjoyed the advantages of the best European laboratories as well as those of his connection with the Johns Hopkins Hospital, and he is accordingly well qualified to present a thorough and authoritative treatise on the approved chemical and microscopical methods of identifying disease. He has not assumed previous knowledge of the subject on the part of his readers but has given full directions to enable even those unfamiliar with such procedures to obtain satisfactory results. His work has reached a foremost place in a year, even in the already rich literature of its subject, and its popularity has enabled the author to give it the benefit of a thorough revision. The illustrations and colored plates are noticeable for beauty and instructiveness.

HOSPITAL REPORTS.

NOTES ON CHRONIC URETHRITIS.*

BY BURR G. CARLETON, M. D.

The first case which we will present is a Russian, aged 40. Four months ago he contracted gonorrhœa, which soon invaded the posterior urethra. About 80 per cent. of all cases of acute gonorrhœa develop, during the course, a posterior urethritis, no matter what form of treatment may be used. This remark applies to acute gonorrhœa, and not to all cases of urethritis.

Acute urethritis is divided into two classes, the simple and the specific. The simple, including those caused by pyogenic bacteria or from toxic chemical or mechanical conditions. The specific are always dependent upon the presence of the gonococci of Nesser, which microscopic investigation shows must be differentiated from the urethral diplococci.

The patient was treated for about six weeks with urethral douches of the permaganate of potash daily at a dispensary in the city, but as he was not materially improved he discontinued the treatment. He now presents many of the classic symptoms of chronic anterior and posterior urethritis. A slight muco-purulent drop is noticed at the meatus in the morning, and after each micturition there is a slight dribbling of the urine. When the urine is voided and the two-glass test is employed, the urine in the first contains long and thread-like shreds, which float for some time. They are of the same character as those found in chronic anterior urethritis, and are combined with short, thick, lumpy shreds that rapidly settle to the bottom of the glass, as occurs in chronic posterior urethritis. These shreds from their gross appearance might be mistaken for the thread-like and globular masses which appear in the urine in chronic seminal vesiculitis, which when discharged into the posterior urethra through the ejaculatory ducts are washed out of the urethra by the urinary stream; they may simulate a chronic urethral or gleety discharge. When examined microscopically they are found to be composed of epithelial cells, leucocytes, pus corpuscles, symplexions and spermatoza, while the sheds from chronic urethritis whether of the long or short variety, consists of thin scales, which have been rolled up by the urine as it flows outward over the congested, eroded and ulcerated patches along the canal, and which constitute the principal lesion in chronic urethritis. These shreds are composed of pus cells and epithelium, possibly impregnated with gonococci and joined together by mucus or fibrin. The dribbling of the urine may be due to a thickening of the urethral walls from small cell infiltration of the submucous coat, or to some coaptation either congenital or acquired of the urethral walls. In this case the frequency of urination is accompanied with a little discomfort, but there are no symptoms of premature ejaculation on intercourse or nocturnal pollutions which are frequently noticed in inflammation of the posterior urethra and are sometimes bloody. The prostate is normal in size, but is slightly sensitive in the sulcus between the lateral lobes of the prostate. The seminal vesicles are apparently normal. Unless the special cause of the urethral discharge is discovered in this class of cases, the treatment will be very unsatisfactory and discouraging; hence the necessity for a careful examination of the parts. You notice that his prepuce is long. The balano-preputial surfaces seem to be normal; the meatus is small, but not congested or pouty, and it admits only a 19F bulbous bougie. The first indication is to increase the size of the meatus, to allow of proper urethral examination and treatment. After producing localized anæsthesia with a solution of sterilized cocaine, we will use a 2 per cent. solution with 1 per cent. of carbolic acid; the urethra being previously douched with a saturated solution of boric acid. Then inject a drachm of the cocaine solution, and retain it by closure of the meatus for five minutes. Here let me especially call your attention to the fact that, notwithstanding many medical journals have proclaimed that cocaine loses its effect by sterilization, this solution, which has been sterilized, gives all the results required. We have now made a meatotomy, thus enlarging the meatus, and a No. 32F bulbous bougie is introduced without difficulty, but its downward progress is obstructed three-quarters of an inch from the meatus, where a strictured condition is found, admitting a No. 27F bougie. Both of these anterior strictures have now been divided on the floor of the urethra, using a long, straight blunt-pointed bistoury, or you can use the Otis meatotomy knife or a Civiales meatotome. A No. 32F bulbous bougie now passes the entire length of the urethra, without giving evidence of other strictured conditions. To prevent coaptation of the divided parts while the wound is healing, and the mucous membrane to develop from the circumference toward the centre, which requires about two weeks, we will introduce full-size meatotomy sounds daily for a week, and also on the fourteenth and twenty-first days, as there is evidence of the presence of gonococci in the epithelium cells in the discharged shreds, we will give him daily urethral douche of formalin 1 to 500. In our opinion this, without further treatment, will result in a

*Reported expressly for the New York MEDICAL TIMES from the Genito-urinary Clinic at the Metropolitan Hospital, October 20, 1897.

cure,* the mechanical cause having been removed, which at every urination caused concussion and over-distension of the urethra, with consequent continuation of the chronic inflammation. It may be asked, why was it that this case was not cured by the permanganate of potash douche, was it given improperly? I believe it was given scientifically, but from my experience with permanganate of potash douches, and I may say the same of formalin, if the patient is not relieved or cured within two weeks, they will become more harmful than beneficial. The permanganate, if continued, causes an anæmic and an œdematous condition of the epithelium, and other douches will be required to complete the cure, such as the sulphate of zinc, 1 or 2 grains to the ounce, aqueous hydrastis, one drachm to the ounce, etc., as indicated. If this case had been free from stricture, I should have advised irrigation of the posterior urethra, which is administered as follows: the patient having voided his urine reclines upon the table, and a No. 8F catheter previously anointed with 20 per cent. boroglyceride solution, is introduced until the eye is about 8½ inches from the meatus, which point corresponds to the center of the prostatic urethra. Then with a Jenny silver antiseptic syringe, 4 to 8 ounces of a warm formalin solution, 1 to 2,000 to 1 to 500, can be gradually injected, and the fluid after washing the posterior urethra will flow back into the bladder, the compressor urethræ muscle preventing its escape anteriorly. As soon as distension is perceived by the patient, the catheter should be withdrawn, and the patient allowed to void the fluid, thus again washing the entire anterior urinary tract. This douche should be repeated daily until the shreds in the urine are free from pus. If the permanganate douche has not already been used it can be administered in the same manner in a solution of 1 to 2,000 to 1 to 500, or the bi-chloride of mercury 1 to 20,000. When the pus has disappeared instillations will be indicated. The patient having urinated, he should stand in front of the surgeon, and a No. 8F catheter rubber lubricated with 20 per cent. boroglyceride is introduced into the posterior or bulbous urethra, and the proper number of drops accurately deposited with the Taylor minim urethral syringe. The instillations which give the most satisfactory results are the nitrate of silver 1 to 2,000 to 1 to 500, Ulzman's solution, etc.; they should be employed every fifth day. The occasional introduction of a full-sized conical steel sound will, in many cases, materially hasten the recovery. In my experience these chronic cases are greatly improved by the indicated remedy, but I do not find the marked and satisfactory results which follow their administration in acute anterior and posterior urethritis. This case also teaches the necessity for careful examination of the patient before making a prognosis in a given case of acute or chronic urethritis. As a rule, in gonorrhœal urethritis, if there is any congenital or acquired stricture of the urethral canal at any point along its length, we may expect a protracted and discouraging case, no matter what form of treatment is followed. But if evidence of stricture is discovered early, the defect may be rectified at the proper time with benefit to the patient and satisfaction to yourself. If overlooked, it may cause you untold annoyance and possibly chagrin if some professional friend discovers the cause, removes it and cures your patient. The strictured condition of the fossa navicularis was of the soft variety, and due to round celled infiltration of the mucous tissue in this very vascular region. Had the patient been free at first from a strictured condition, the permanganate douche might have cured him. Personally the permanganate of potash douche has not been very successful in my hands, and our hospital frequently receives cases of chronic anterior and posterior urethritis, which are cured quickly by gradual urethral dilation, or the indicated internal or external urethrotomy after resisting other forms of treatment for months.

—In an article on "The Baby's Bath" *Annals of Hygiene* says: "A way to determine if a soap will irritate baby's skin is to touch it upon the tongue. If the tongue smarts, do not use it."

* All symptoms of disease disappeared in a week; patient has been discharged cured from hospital history.

CORRESPONDENCE.

PAST AND PRESENT.

A cursory glance at the state of medicine at a date within the memory of living men, as compared with that of the present, affords abundant evidence of progress. This is a fact which the most pessimistic of grumblers must admit. It is true there are exceptions, but these exceptions make the truth stand out in greater prominence.

It is impossible, of course, to go over this evidence in detail in brief space. The present writer does not propose to essay the task. His object is rather to make a point here and there in respect of matters in which he has taken a modest part, by way of reproof and instruction to the despairing and hopeless.

Let us begin with homœopathy: Within a period of twenty-five years, or since *The Medical Union* first appeared, marvelous changes have been wrought in that system of medicine—say rather, system of *practice*, since it never was a system of medicine, Hahnemann to the contrary, notwithstanding. So set and bigoted were the adherents of homœopathy at that time; so malignant were they in their attitude toward those who questioned the validity of their extravagant claims for that system as a science, that we cannot but wonder that any of their critics were allowed to live to tell the tale! At that time it was incumbent on the candidate for honor and preferment to swallow the trinity of doctrines brought forward by the learned (for that day) founder of homœopathy, namely, similia similibus curantur, dynamism and infinitesimalism, and to accept as inspired the *Materia Medica Pura*. These were the fundamental postulates of homœopathy twenty-five years ago. He who had the temerity to doubt or reject these tenets was professionally ostracised, if not expelled from the homœopathic fold. To physic, puke, bleed, blister, scarify, sweat, promote enuresis or other direct effects of drugs, or to administer crudities in any form, was a heresy, and subjected the offender to discipline. Even the lance and knife were abjured. Every form of disease or infirmity must either yield to its similimum, or its victim be allowed to die!

It was better form to die under homœopathy pure and undefiled than to get well under any other method, since in the former case the system would suffer defeat only, but in the latter case it would escape the obloquy it would incur by the success of a rival system of practice. The system was of more importance than the patient.

All remember the fight of the factions, the high and the low dilutionists, in this city over the control of the Homœopathic College. Bitterness is no name for it. It would in all probability have continued until this day had not death intervened and removed a few of the combatants, so thoroughly encysted was dogma in the purely homœopathic brain. Those who survive have had to yield to the inevitable and submit to the law of progress.

Twenty-five years ago the most prominent homœopathists confined their dose to the thirtieth potency. Many of them preferred the two-hundreth potency. There was Reisig, who could abort variola with this small dose of no medicine; Bayard, who could set a fracture or discuss a tumor with doses equally attenuated; Wells, who never failed to cure diphtheria with lachesis of the two-hundredth potency; Hering and Lippe, who saw no reason to administer a stronger dose than this of any drug; Dunham, who confined his practice to the two-hundredth potency, and used the same potency in drug provings, obtaining unfailing characteristic symptoms from it; Fincke and Minton, who carried the fad of potentization to greater length, the former to the five-thousandth, the latter to the forty-thousandth, contact potency, at that, both reporting marvelous success, and what was equally marvelous, no failures—and all within twenty-five years! We well remember one of the gentlemen among this brief list who took the writer into his confidence and related a case of typhoid fever, in his own family, which he had cured with the five-thousandth of Bryonia! We doubted his sanity then, and we have had more reason to doubt his sanity since.

Another name on this list, that of an honest man, a learned man in his way, a Christian man, who could not tell a lie, or who would not if he could, related the case of uterine adhesions broken down by Lillian Tigrinum of the five-thousandth potency. And he believed it. These distinguished men, credulous beyond those of any previous generation, have passed away, leaving vacant places—places which will not be filled in this cycle of the world's progress.

The New York MEDICAL TIMES has been in the thick of the fight against these and other fads and misconceptions from the beginning, and its senior editor an object of aspersion, obloquy and adverse resolutions. One wonders at this to-day, for he is an amiable man, many sided, broad-minded and conservative. His chief offense has consisted in his uncompromising hostility to homœopathic nonsense and hypocrisy. He did not think it fitting for members of a learned and liberal profession to make use of a trade mark or practice under a misleading banner. The term "homœopathic," as applied to colleges, journals and hospitals that were or ought to be broadly medical, was even more objectionable. Let it be "Hahnemannian," if you will, in honor of a heroic figure in the history of medicine, but not "Homœopathic," unless and except it be truly and distinctively so. For a man or a woman whose armamentarium was broadly medical and who was educated as a physician and surgeon, equipped, as he ought to be, with modern ideas and master of modern means and measures with which to apply them, to dub himself or herself a "homœopath," or a "Homœopathician," as the late Dr. Dunham thought the more elegant, was not only misleading and fraudulent, but belittling, and not only belittling, but derogatory to his learned calling—that of a physician. He only should call himself a Homœopath who is truly such, or confines his pretentions and acquirements to the mastery of similia and the pellet. No one doubts either the wisdom or honesty of this view to-day, but to what bitter and relentless persecution it subjected its advocates twenty-five years ago! The bitterness of the political partisan against a dissentient is as nothing compared with it. It can only be compared in malignancy with that which used to exist between sects in theology and religion, now happily ameliorated.

While we are not writing this article with the purpose of lauding the TIMES or its editors, it must be acknowledged that the TIMES has been a "unifying force" in the profession. True, it has antagonized and combated the isms of the new school, rejected the hypothetical and the untenable, and brought down upon itself the execration of their advocates, but, at the same time, it has brought together the liberal element of every school, or following, and established a basis upon which that element could unite in cordial fellowship. In the language of the great Apostle of Christianity, its position has been: whatever is true, whetever is of good report, whatever is honest, whatever is pure, let us accept. But whatever is chimerical or unfounded, whatever is false or misleading, whatever is dishonest, whatever is of evil report, let us charitably reject.

On such a platform, the liberal and progressive element could unite—yea, have united, and the medical profession of to-day is more respected and self-respecting in consequence of it, the homœopathic branch of it especially. The editors of this journal have led this movement and borne the brunt of the struggle, its cost in professional emoluments and personal convenience and sacrifice, and deserve and will receive the gratitude which so distinguished a service entitles them to at the hands of the profession. Few men have lived to see the travail of their souls to such an extent, or have had more reason to be satisfied than have the editors of the New York MEDICAL TIMES.

Second, as to old school medicine: While medicine—more especially therapeutics—has advanced during the last quarter of a century more than at any previous similar period, the advancement has been along certain lines. On other lines progress has been less marked. Indeed, there is notably a retrograde movement in certain circles. In the days of Holmes, Forbes, Biglow, Trall and others, at the beginning of the last half of the present century, there was a decided wave adverse to old-school medication, in favor of Expectant Medicine. Medical teachers of that day warned their pupils against the evils of overdosing the sick, and the propriety of trusting more to nature—to the *vis medicatrix* in the cause of disease. The horrid concoctions of the materia medica were condemned in no uncertain language. "A mild mercurial course was like mildly cutting a man's throat," said the late Prof. Gilman. "The administration of powerful medicines is the most fruitful cause of derangements of digestion," observed the late Prof. Peaselee. Physicians "have learned that more harm than good has been done by the use of drugs in the treatment of measles, scarlatina and other self-limited diseases," declared the late Prof. Alonzo Clark. And Prof. Willard Parker, who was wise in his day, the period of which we are writing, expressed to his class in the writer's hearing (1857) that he wished his pupils would study materia medica less and materia alimentaria more.

We cite these sentiments from the lips of medical teachers of the middle century to show the drift away from the practice of heroic dosing which was rife at that time. We could greatly extend such citations. And they were not without good effect on medical practice, and on the fate of the sick and infirm. The last decade, however, has witnessed a retrograde movement. Animal extracts have come into use. There was the late Dr. Brown-Sequard, with testicular juice, which had restored his youth; Koch, with tuberculin for consumption of the lungs, which according to trustworthy reports, has increased, in some places, the fatality of that disease; Dr. Hammond, with cerebrin for mental affections, which was a failure from the beginning; thyroid extract for the same maladies, already abandoned in many quarters; and lastly, anti-toxine, or horse serum, for diphtheria, which is, to our mind, the greatest absurdity and the most unfortunate experiment of all in empirical medicine.

Clinical reports of its results are widely conflicting; statistics are not at all in accord as to the result of its use. Eminent physicians approve of it, and equally eminent physicians condemn it. It has certainly been attended with fatality, both as a cure and as a prophylactic of the malady. When it is remembered that of a hundred medical facts ninety-nine may be medical lies, physicians may not without reason be cautious as to accepting clinical statistics. For our part, we prefer the alcoholic method of treating diphtheria. It is the most rational in theory and practice; it is easily applied, it does no harm; it is pre-eminently effective. In our experience, but one case—and that of an infant—has been lost since 1873.

That the use of anti toxine is attended with less fatality in the hands of the dominant practice than under the methods of treatment previously employed by it, may be easily explained. Not only were the remedies commonly employed not germicides, as a rule, but when they were germicides they were as destructive of living tissue as they were of toxic germs. In either case they were of doubtful efficacy. Moreover, the custom of scarifying a diphtheritic throat, so long in vogue; the use of caustics, such as potassafusa, potassa permanganate, silver nitrate, thermo-cautery, electro-cautery, etc., curretting the throat with the view of detaching and removing diphtheritic membranes—all these were procedures prejudicial, not to say fatal, in themselves, as every unprejudiced and thoughtful physician must acknowledge. Wounds in infectious diseases are always dangerous. Scarifying the throat lacerates the mucous membrane, and thus opens the capillary vessels to the direct absorption of the diphtheritic baccillus and the spreading of the disease. The condition of the patient may have been hopeful, left entirely to nature, but it is hopeless now. The local treatment may have destroyed the bacilli, but it has done so at the expense of the patient. The internal medicines in use for this malady were almost equally at variance with common sense. The patient, if a child, would not take them, except by force, and the struggle which their exhibition involved was itself a cause of fatality. Dr. Abraham Jacobi declares he has seen death follow the struggle to administer the obnoxious medicines, "leaving doctor and nurse victorious on the battlefield."

The discontinuance of these cruel measures and remedies, especially the brutal practice of throat scarification, has naturally lessened the fatality of diphtheria, of which the injection of anti-toxine takes the credit. The check on the mortality of the malady is likewise partly due to the introduction of antiseptics and the improved means of supplying nutrients in assimilable form, thus enabling the patient to resist malady, and to cure the disease in spite of the drug. How little the virus is deserving of the credit admits of no two opinions in our mind. The demonstration of its futility, however, must await the slow process of experience. For ourselves, we feel certain that its introduction is a relapse toward medical barbarism—refined, perhaps, but yet barbarism—from which it was hoped the profession had emerged never to return.

The MEDICAL TIMES has done a good work for medicine, not only in liberalizing the profession, but in raising the standard of medical education. But there is more work to do in these directions. We hope its editors may not be content with their achievements. When Michael Angelo had reached the period of decline he remarked to a friend: "I am getting old; I am no longer dissatisfied with my work." May the editors of the New York MEDICAL TIMES never reach a condition of mental decrepitude which induces satisfaction with their work. Error is like a noxious and perennial growth. Its extirpation must ever go hand in hand with the cultivation of the golden grain of truth. D. A. GORTON, M. D.

Brooklyn, N. Y., November, 1897.

SOME THOUGHTS ON 'GONORRHŒA."

Not by any means a new disease, but until recently, within the last twenty years, not very well understood.

Declared by many to be strictly a local trouble, it nevertheless makes itself felt, and leaves its foot-marks, in several parts of the body.

At first a minor local irritation, if neglected it assumes very serious and often incurable lesions.

That "it is caused by a bacillus finding lodgement in the male in the first half inch of the urethra."

The period of incubation, if we may so call it, is about nine days, when a slight burning sensation is felt on voiding the urine, as well as a deep-seated itching not relieved by sqeeezing, or kneading the parts. A small amount of mucopurulent substance exudes from the mucous surface which is thrown out with the first jet of the urine. Later on, a slow but constant flow of a rather disagreeable odor.

There is no doubt in my mind that this disease is a direct punishment for the violation of the laws of chastity —for in a long life and practice among every class of people, some of them devoid of every idea of cleanliness, I have never found a single case of this disease where husband and wife were faithful to their vows.

It was not much thought about years ago, because the microscope had not cleared up the prime factors in some of the more obscure diseases. Since then it seems to have become as much dreaded as syphilis. In fact a noted gynæcologist, Dr. Tait, seems to think that once acquired it is very seldom removed from the body.

Also it seems no particular idiosyncrasy exempts; nor is it more severe in one than another, treating all alike. Less troublesome in men than in women, because of a less number of inlets to the inside of the body. A good many diseases which were described as abscess-rheumatismal are now ascribed to the migration of the gonococcus to all parts of the body. Even thrombosis in arteries and veins have been charged up against it. Only a short time since an abscess in the lungs showed quantities of gonococcus as well as other bacilli. Salpingitis, intrametritis, gonorrhœal rheumatism, and conjunctivitis are all the product of the infection.

Recently I saw that the various kinds of bacilli were traceable to one or two non-virulent forms—which became virulent in the body by the production from substances in the body, which became poisonous. That is, the nature of the bacillus became changed by contact with diseased tissues of the body. That in the body existed substances which caused a change in the natural condition of the bacillus. One instance of this is cited in the "fluke," which is almost a microscopic insect in the blood of the beef, but transplanted into the human body becomes a reptile of 20 or more feet in length.

Let this be as it may, actual contact with the pus is necessary to communicate infection—it is strictly a contagious disease.

As to treatment: if taken in hand during the first few days, I have ordered the following by mouth: 3 drops of carbolic acid in a wineglass of water (or dilute to taste) three times a day, to be increased one drop to the dose every third day till 5 drops have been taken three times a day for three days. If the urine has become clouded, stop at that and retrograde in same way back to 3 drops, three times. If not cured go through the same increase and decrease as above.

As an injection, carbolic acid, 8 to 10 drops; water, 1 ounce. Use one third of a syringeful three times a day after urinating, retaining it in the urethra for one-half a minute. By this method I have had splendid success for about twenty-five years.

For chronic cases: permanganate potass. 30 grains; water, 1 pint, using it as an injection three times a day after urinating, retaining as above for half a minute; also the carbolic acid by mouth in sufficient amount to keep the urine cloudy.

This last, like the first mode, I reasoned out from the pleasant effects produced in vaginitis when I commenced practice, and have adhered to it in preference to the usual modes—to wit, mild astringents and nitrate silver, the unpleasant effects of which I have noticed in others in strictures and sloughs. Strong caustics are to be avoided. Have also tried in three cases "argonin," a new form of silver (Koechl & Co.). It seems to do good work and the cases, if taken early, are cured, to stay cured, in from twelve to fourteen days. The strength of the solution is about 25 grains to 5 ounces water, used three times a day. In two of these cases I have seen no return, now after two months, of any signs of the disease.

There is a good deal said about the bacillus burrowing down into the sub-tissues, and that powerful germicides and constant use for a long time are necessary to cure. I have as my own experience to report that with care I do not think but that absolute cure is possible in two to four weeks. I have been living here twenty-five years, treated a good many cases, and of married men do not know of a case of gleet or stricture, nor have the wives of the men shown infection in two years afterward.

I have branched off from the usual modes into some untried paths—have treated two cases with kerosene (coal oil), pure by injection and 10 drops three times a day by mouth. Kerosene is one of the best germicides we have, and I thought if there was any gonococcus in the matter, the coal oil was no friend to him and he would have to vacate. My cases got well, married in six months and I attended their wives a year afterward in confinement. No signs of any infection. Gonorrhœal rheumatism is pretty well understood, and is generally thought to be incurable—at least it resists treatment at my hands, but bryonia and gelsemium every hour and salol three grains every three hours relieves it. After a while it comes back again. One sign of gonorrhœal rheumatism is a weakness and tenderness, as tapping the patella with the knuckle. There is a kind of "lame" feeling, and it has been found in quite a number of my clientele who have been infected in their young days. This may be one of the reminders which Dr. Tait refers to when he says that it is never eradicated from the system; otherwise than this these men were free and their children showed no taint, nor were their wives in any way affected.

This patella trouble is shown plainly when, after riding horseback, they have to alight very carefully. Or after a day's plowing there is a dull ache at the place.

Ophthalmia is best treated with frequent injections under the eye-lids of hamamelis tea (made as strong as tea made from China tea for drinking), with 10 or 12 grains of boric acid to the ounce, used warm several times a day. No strong caustics should be used; 5 drops of carbolic acid to one and a half ounces of the tea is also good, the eyes to be thoroughly cleansed at each time. A plaster

made by mixing acetanelide and boric acid equal parts, powdered (boralide) with glycerine to a paste and spread on soft linen applied between injections relieves the fever and prevents suppuration.

Chordee, a not uncommon accompaniment, should be treated by 10 grains bromide ammonium at bedtime. It is caused by irritation of the neck of bladder and the prostate gland. I have had very little of this to combat in the modes of treating the disease herein laid down. The treatment seems to allay the cause.

In women this disease is more troublesome. Not only the vagina and urethra but the anus becomes irritated. Metritis comes next, and if it extends into the tubes the peritoneum becomes involved and it is said becomes a general infection. It was a woman in whose lungs the abscess was found infiltrated with gonococci.

As in the male so in the female, the same treatment is to be carried out. I have had some twenty-three cases of this in women, seven of whom were unmarried; twenty-one of the cases were negroes. I have had among children two cases (both black) infected by washing with the same cloths a young man had used. In them as in the women the treatment was permanganate potass. though in a weaker solution than the prescription mentioned previously.

I am not much "impressed" with the microbe theory as causative of disease; more so as we see the surest and best-built certainties, one after another, crumbling to pieces; On page 281, September, 1897, issue of THE MEDICAL TIMES will be found a note where Prof. Hennig found seven cases out of thirty-five (20 per cent.) in which no bacillus were found, but these were *true diphtheria*, as shown by the results "diphtheritic paralysis." Also a certain authority has recently shown that true typhoid fever does exist, and in a large percentage the bacillus (the Klebs-Loeffler) *were not in it*. A London journal in commenting on this, asks: "What next?" Now, while we are talking (not through our hats, either) could it not be just a bare possibility that in a good many other diseases which are set apart, each to a separate guardian angel, that the said angel had asked to be excused—perhaps having had enough of it for one time? I am still open to conviction on the "microbe theory." There is a cause for disease, because disease is an effect. Perhaps after a while the old theory of the "Humorists" may be revived under a different dress, and the real reasons be found in poisons existing in the intestines, and conveyed into the blood and body to poison it. That the taint of ancestral blood still runs in the blood of the descendants, the same as facial, psychical and bodily resemblances. If the microbe is innocuous (and recent writers seems to think they are all derived from some two or three *non-poisonous* varieties), and only becomes poisonous by transference to new surroundings.

The said surrounding is really the cause directly, and at best the microbe indirectly. In other words the material out of which disease is made exists in the individual before the microbe got there, and so long as the microbe remains well and hearty and in a good humor, nothing occurs. But as soon as he over-eats himself, gets sick and then mad, the disease comes to light and is named. There is certainly a splendid opening and immense space for facts to replace theories in the present microbe raving.

Now here is an idea (and not a new one). It is very well known that the surfaces of the body, inside and outside, are furnished with means of absorbing various fluid and semi-fluid substances, and that the urethra, vagina and rectum do absorb certain medicated fluids. Now could not there be poisoning by muco-purulent substances independent of any microbic influence, and that these purulent substances can and do set up inflammation? Note gonorrheal (so called) ophthalmia. The bug may be made useful by rendering the surfaces more suitable for infection, the same as a farmer plows his land to render it more fit for seeding. It seems no bacillus is necessary to promote the effect of vaccination, yet it progresses and involves the entire body. Also there seems to be a *principle of life* within the pus cell which acts independently. I am sorry about the diphtheria and typhoid bacillus failure, and hope Prof. Hennig and the other scientists may be wrong; for they (the two established bacilli) were the best built of any we had.

BEN. H. BROADNAX, M.D.

Broadnax, La., Nov., 1897.

THE NEW MICROSCOPY.

To the Editors of THE MEDICAL TIMES:

Having read with profound interest Prof. Gates' paper in your issue for November, I am still impelled to remind the professor of the old *dictum*: "*Nil novi sub sole.*" And this by no means disparagingly. Far from it! Indeed, the spectacle of a man *thinking* is too rare in these days of arid inanities and "scientific" mare's-nests to occasion any other emotion than that of sincere reverence.

But I do not believe that Prof. Gates would subtract an iota from the meed of praise that is due any predecessor in the field of microscopical research, and therefore this *corrigendum*.

Soon after the close of the Rebellion the late J. J. Woodward, of the Army Medical Museum, at Washington, D. C., was deeply interested and most intelligently engaged in perfecting the art of photo-microscopy. W. W. Wales, an English optician of genius and rare skill, and then resident at Fort Lee, N. J., was his most efficient ally. Between them the device of introducing into the body of the microscope an "amplifier" was so successfully carried out that Dr. Woodward was enabled to obtain a greater and more accurate amplification or magnification of the object with a Wales one-sixth than was possible with the Powell and Leland one-fiftieth.

I recollect that a micro-photograph of a frustule of the diatom known as *Pleurosigma angulatum* had its markings so resolved by the one-sixth *plus* the "amplifier" that they were shown to be hemispherical bosses of silica rather than hexagons, as the one-fiftieth and all other lenses then known made them appear. The result was owing to the superior resolving power of the one-sixth *plus* the "amplifier."

Therefore the principle upon which Prof. Gates is now working, and which has in it a rich plenitude of precious promise, is not wholly new. At the same time, as a *microscope* is infinitely superior to an *eye-piece* for the amplification of the "real" image, Prof. G. has discovered a field rich with promise; and an old-fashioned and decidedly *effete* microscopist tenders him a hearty "God speed you, brother!"

And perhaps an old fellow who is stiffening in the knees, somewhat scant of breath betimes and spectacled with bi-focal glasses, may be allowed to confess that Prof. G.'s enthusiasm warms up his own well-worn heart unwontedly. I can the more readily believe that

"Even in our ashes live their wonted fires"

when I find my own dry-rot trying to burst out into the old flame. O, Time, touch us gently for the sake of what has been!

"The line of light falling on the photo-salt in the film *spreads by molecular irradiation over more area than the actual width of the line of light*, and there is also *diffused reflection* of this line of light by the semi-transparent substance of the film. To these two causes is due the fact that when the details of two structures are too close together in an image of an object these structures will photograph as ONE, and thus the detail will be lost. . . . If the new details are to appear the *image must be enlarged* before it is photographed."

So far Prof. Gates, and so far, indisputably, he is resting on the bed-rock of eternal truth; and so far we can say of him, "*Arma virumque cano*"—which Dr. John Brown so felicitously translated—"*Tools, and the man to use 'em!*" Napoleon, *der Einzige*, as happily phrased it "The tools to the man who *can* use them." The "tools" are evidently in the right hands, and the *man* is built "With brains, sir!" A divine conjunction for the human race and one to be devoutly acknowledged.

And when a man who *thinks* writes: "I am satisfied that life is mind; that vital phenomena are mental. A cell can feel stimuli and can *adapt acts* to *ends*. Now, only mind can do this—only animate bodies have minds, and

mind alone it is which constitues their life. . . . The secrets of life are to be found in the study of mind, and mind in its most elementary knomn form exists in the cell." There is Virchow's "cell autocracy" lifted from the mud of materialism into that clear blue ether wherein the soul is not asphyxiated by the fumes of the pit!

Mind in the macrocosm, and *therefore* mind in the microcosm. A recognition of "First Principles" that is respectfully commended to the attention of the bottle-fed babes of the Spencerian species.

"The mental state of the cell modifies its metabolism and creates its structural differences" and its product, as when violent emotion so "poisons" a mother's milk as to kill her nursling—a recorded fact concerning such milk that has long figured in our Physiologies.

"Medicines and forces and foods affect the mentality of the—cell" (can that be denied logically?), and within that domain are hid the secrets of life and death. Here is our Nansen of Physiology who has pushed his explorations so nearly to the Polar centre of the greatest of mysteries, saving always the death of Jesus of Nazareth.

"The bodily functions are all reducible to cellular activities, and the cellular activities are reducible to mental phenomena" Why start at this? If mind is reducible to cellular activities in cerebral cells, why not in spinal cells? If acknowledged as functionating these cells, why not those in the great sympathetic ganglia, and in the cells of and in the ventricular muscular substance? Joy makes the heart dance with delight; joy makes the same heart hold solemn pause until the cheek is blanched and the warm current of life nearly congeals; joy smites a Grecian mother dead while her own son is hastening to lay at her feet the chaplet he had won.

"The mind, which has embodied itself in a cell, controls the structure and metabolism of that cell and constitutes its animate character." . . . "Another line of research proved that each emotional state produces in the liquids of the body a definite cata state of a poisonous kind, and that the good emotions anabolism." Does not an old Hebrew book tell us that with certain emotions actuating the life of him, a man's days shall be long in the land? Is the happy day about to dawn upon the race when Science, true to her Heavenly function, shall be ever in correlation with divine truth? Are there not streaks of golden promise beginning to irradiate the East?

"What we call mind reigns causatively in the units of the animal body, as well as in the aggregate of all the cells called the body."

Are all these half-opened vistas only the splendid mirage of a beautiful dream? The great Source of all TRUTH forbid!

Press on, O thou to whom these visions have been permitted! *Festina lente*, but ever and ever, *Festina!* Perhaps it shall be thine to clasp hands with the mind that men once called Sir Thomas Browne in the high endeavor to cast from us the old, old reproach: *Ubi tres Medici, ibi duo Athei!*

Old is the truth, long learned in tears, that it is appointed unto all men once to die; but what if the importunity of meek Science at last be heard, and unto even us is granted the prayer of Ajax: *Since it is thy will that we perish, oh, that we may die in the light!*

> And the night shall be other than darkness,
> And the trials and cares of the day
> Shall melt as the mist of a morning
> That is blown by a zephyr away.

SAMUEL ARTHUR JONES.

Ann Arbor, November 8, 1897.

LETTER FROM PROF. ELMER GATES.

. . . The entire system of apparatus* is enclosed within a box whose walls are composed of layers of various substances impervious to actinic rays. This is done because the ordinary leather and wooden walls of a camera allow a certain amount of light to leak through them, and the same is true of the imperfectly fitting sliding joints of the microscopes. All such light which leaks into the camera acts on the sensitive plate without helping to produce the image desired and so as to blur that image. But when the whole train of apparatus is within an actinic-proof box the exposure can be made for hours or days, so that the faint rays of the image can act cumulatively. This makes it possible to expose a plate for a long time without allowing any light to act on the sensitive plate except the light which forms the image.

Then I have a means for putting much more than the usual amount of light into the microscope.

I have just discovered how to view, with a microscope of high power, the upper surface of an opaque object, by means of reflected light, in such a manner as to get details never before obtained by super-stage illumination, and I find by using rays of the shortest possible wave-length that I can focus down into an opaque object upon details beneath the surface! This is especially applicable to organic tissue, and I consider it a discovery of the very greatest possible interest to pathology and biology in general. If I had means and facilities to devote to the making of lenses out of other substances than glass, I feel sure that I might be able to focus the ultra-violet microscope upon a living cell in the living cortex and take a photomicrograph of such a cell through scalp, skull, pia and dura, and neuroglia! This is not mere theory! I have been able to focus upon a capillary beneath the sub-cutaneous tissues of my own finger! It is very difficult for me to restrain my enthusiasm when I think about what might so easily be done with proper and adequate facilities for research in these several new optical lines. ELMER GATES.

Washington, D C., Nov., 1897.

* Referring to the subject of article in our November issue.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

ACADEMY OF SCIENCES.

THE INTERNATIONAL CONGRESS OF NEUROLOGY, OF PSYCHIATRY, MEDICAL ELECTRICITY AND HYPNOLOGY.

(Held at Brussels, Sept. 14-19, 1897.)

The Surgical Treatment of Epilepsy, its Indications and Consequences.—M. Winkler, Amsterdam, reported following conclusions:

1. Reflex and topical epilepsy may present unilateral or local spasms, the same with traumatic epilepsy, and that due to any other lesion, more or less circumscribed, of the brain. It is not then cortical epilepsy alone which begins with local or unilateral convulsions.

2. Every epilepsy is symptomatic, and a symptomatic epilepsy cannot be separated from a true or idiopathic epilepsy, and consequently, epileptic surgery does not exist, it is that of the brain and the cranium.

3. An epilepsy may necessitate surgical intervention in case only when the cerebral lesion permits the intervention, that is to say, when the lesion can be located with certainty, is accessible and sufficiently circumscribed to allow of complete extirpation.

4. That which I denominate a diseased condition—*etat de mal*—with unilateral spasms, preceded, accompanied, or followed by monoplegia or hemiplegia of the convulsed side, always indicates temporary extensive osseous resection of the opposite motor zone.

5. Circumscribed tonico-clonic spasm that acts as an initial symptom and signal of unio-lateral or general convulsions, or that constitutes the entire attack, with or without loss of consciousness, indicates surgical interference in case of visible wound of the cranium, provided there is a topographical identity between the wound and the center which is presumed to be the point of departure of the signal symptom.

6 In case of topographical difference between the exterior cicatrix and the presumed motor center, or when the exterior traumatism is defective, the aura preceding the motor signal symptom acquires, if it exists, an extreme value.

7. The sensorial aura of an extremity, in which the sig-

nal motor symptom begins, accompanied often by paralysis of muscular power, indicates a lesion of the parietal lobe, posterior to the motor zone.

8. The visual aura, often connected with the preceding, and preceding, too, the signal motor symptom, in this case rotation of the eyes, and of the head toward the opposite side, and often accompanied with an incomplete hemianopsis of the inferior part of the visual field; presumes a lesion of the angular convolution or of the cuneus.

9. The aura of memory—aura intellectualis—often connected with an epigastric or an olfactory aura, and preceding the signal motor symptom, induces suspicion of a lesion of the frontal lobe, especially the right.

10. The results obtained by surgical intervention in epilepsy are satisfactory when a lesion is absolutely reachable, and can be completely removed. The extirpation of a center, which exhibits no lesion to the naked eye, is not permissible, except in case it can be demonstrated that the center plays the role of a discharging lesion. At present the only means of making this demonstration consists in reproducing by faradic excitation of the center an attack absolutely similar to the spontaneous attacks.

SESSION OF SEPTEMBER 15.—MORNING.

The Pathogenic and Semeiological Value of Reflexes.—M. Mendelsohn, of St. Petersburg: It results from the experiments of M. Rosenthal and my own that the normal reflexes, viz.; those which are provoked by a slight excitation, follow longitudinal courses and pass by the upper part of the medulla, and that part of the bulb designated by the name of the cervico-spinal, and which is the seat of numerous reflexes. To be more exact, it may be said that a reflex follows the course of the least resistance. An experimental lesion of the bulbo-cervico spinal region destroys all the normal reflexes, which may, however, be transmitted by other paths, but a considerable augmentation of the intensity of the exciting current is necessary, and clinical facts favor this opinion. Indeed, science cites many cases in which a complete lesion of the upper part of the medulla entirely abolished cutaneous and tendinous reflexes. In all these cases the lumbar medulla was intact. Reflexes have a prominent part in neurology, for many of the symptoms may be regarded as reflexes.

M. Voisin insisted upon epilepsy that may be referred to an auto-intoxication, the crisis of which is announced in advance by gastric symptoms, with a saburral condition of the tongue, and in which an operation is not indicated.

M. Winkler: Upon this subject there is yet a difference of opinion among authors which I have no desire to discuss, but am content with the simple relation of my own clinical observations. Moreover, it is not necessary to attach too much importance to the condition of the digestive tube. When there is a localized epilepsy, there is always a local point of departure. I am then in favor of trepanning always, and rest there, or complete the intervention by a subsequent operation.

Reflex may be modified more or less, thus producing convulsion or paralysis. These latter may be of the order reflex or anatomical, and hence the value of reflexes is very great in differential diagnosis. In order to derive all possible benefit from it, it is necessary to study them not only from the point of view of their intensity, but also to examine the curve of muscular contraction produced by sensory excitation. The semeiological value of reflexes is relative and not absolute. M. Rabinsky completed orally the observations already given by M. Mendelsohn upon the phenomena of the toes. In the normal condition excitation of the sole of the foot produces flexion of the toes. In certain pathological conditions, in place of flexion, there is a special extension, in spinal affections, transverse myelites, lateral amyotrophic sclerosis, Pott's disease, hemiplegia, spasmodic tabes, etc. It is at the beginning that the phenomenon is most accentuated. In dynamic paraplegia it is not found as in hysteria—a fact useful for diagnosis. M. Crocq, of Brussels: How does it happen that when the medulla is divided the reflex persists and is even exaggerated, if it is true, as M. Mendelsohn has declared, that in the reflex the nervous influx passes even to the upper part of the medulla?

M. Mendelsohm said that in reflex the nervous influx passes longitudinally and mounts even to the upper part of the medulla, to again descend. I do not share in that opinion; I believe that the reflex always takes the shortest way. M. Sano, of Anvers, exhibited preparations of compressed medulla without lesions, with persistence of the reflexes; he believed that the sensory excitation follows rather the column of Clarke than the posterior-sensory route. M. Mendelsohm thought that feeble excitations followed the longitudinal route, while the more vigorous took the short one, which offered more resistance than the first.

The Diagnostic Value of Prodemic Symptoms which Precede for a Long Time the Manifestations of General Paralysis.—M. Thomsen, of Bonn: The incontestable fact that general paralysis is often not recognized by practicing physicians, even in cases that are entirely manifest to the special neurologist, may be explained by the following reasons: First, the duration of general paralysis is often much longer than is supposed, a duration of five to seven or ten years is not rare. At the commencement of the disease purely physical symptoms may prevail, so that an erroneous diagnosis of neurasthenia or cerebral syphilis may be made. Again, very long and very complete remissions may occur, during which all the psychic symptoms may disappear. The anatomical basis of general paralysis is a process which undergoes many remissions and which attacks very different parts of the nervous system, and hence the very marked difference of symptoms and of the progress of the disease. When the paralysis is manifest the anatomical process is already well advanced.

It is not sufficiently known that certain characteristic symptoms of paralysis may precede the manifestation of the disease for a long time, for a number of years, as prodromic symptoms more or less isolated. The symptom of Argyll-Robertson, the sign of Westphal, fugitive ophthalmoplegiæ, paralytic or aphasic attacks, difficulties of articulation, atrophy of the optic nerve, and many others less significant, belong to these very important prodromata. In cases in which these prodromic symptoms are manifest it is very often possible to make a diagnosis, certain or probable, of general paralysis a long time before the manifestation of psychic symptoms. By taking them into consideration, a confusion with neurasthenia or cerebral paralysis is prevented. It is very important to make the diagnosis of general paralysis in the first phase of the disease. M. Antonelli has observed a congestion of the pupil in the prodromic period of general paralysis.

M. Regnier believes with M. Thomsen, that certain symptoms precede for a long time the appearance of the characteristic signs. He reported a clinical case in which the first symptoms appeared three years before the confirmation of the disease. As respects syphilis he does not believe in its necessity for the etiology of general paralysis. M. Crocq, of Brussels, also thinks that general paralysis may appear without anterior syphilis. M. Leutz, of Tournai: It should not be forgotten that moral troubles go along parallel with the physical troubles. The physician should never neglect the first, but study them as well as the second. M. Thomsen: We find ocular signs in other affections besides general paralysis, for example, in neurasthenia there may be papillar insensibility. I give great importance to the psychic signs, and make no diagnosis without them.

The Influence of Labor upon the Nervous Diseases which Children Subsequently Present, Especially the Diseases of Little and Analogous Conditions.—M. Verrier, of Passy: After recalling the works of Duchenne, and stating the insufficiency of his classification, which comprehends only obstetrical infantile paralyses, proposed a new classification which embraces all the infantile nervous maladies of labor. The first class contains all the injuries; the second, the diseases of nervous origin and the infectious and toxic diseases; the third, those of intrauterine origin. He concluded by stating that he had traced infantile spasmodic paralysis, the spastic rigidity of Little and the origins of certain syringomyeliæ to traumatic hematomyeliæ occurring at the moment of delivery. M. Van Gebuchten: It is necessary to distinguish cases in which labor occurs at term and laboriously from those at term and normal, and

finally, those before term. I have examined a medulla twenty hours after death of a fœtus of seven months which was deficient in the pyramidal bundle at the top of the medulla, while it was normal in the bulb, which proves that the fibers of the pyramidal bundle require a certain time for development in descending into the medulla. This serves as a simple explanation of the disease of Little in children born before term. M. Glorieux, of Brussels, observed two cases of spasmodic tabes in the same family, at an interval of two years, in children born before term.

SESSION OF WEDNESDAY, SEPT. 16.—EVENING.

Pathogenesis and Treatment of Exophthalmic Goitre.—M. Eulenberg, of Berlin: The effort has been made to interpret the nature of exophthalmic goitre by three theories, which I would call the hematogenic theory, the neurogenic theory and the thyreogenic theory. Each one of these possesses an amount of truth, and is justifiable in certain points, but each is insufficient to explain the clinical symptoms and the nature of the disease. As respects the treatment, organotherapy and the surgical operation have not as yet given sufficient proof to set aside other older methods such as electrotheropy, climatotherapy, hydrotherapy, etc. Again, the treatment of this disease should not rest in the domaim of internal medication.

M. J. Voisin has always approved of the employment of the thyroid body in exophthalmic goitre, but the thyroidal alimentation should be continued persistently, as the symptoms reappear upon its cessation. He has observed that when the lobe of the gland in a Basedowian subject is compressed the exorbitus of the same side appears and disappears as soon as the compression is removed; this he attributes to the compression of the great sympathetic.

M. Regnier: In those countries in which goitre abounds some of the goitrous subjects manifest Basedowian symptoms and some do not. Among the first, nervous antecedents are always observed, which authorizes the conclusion that the nervous system is the most important etiological factor; it is the same in this instance as in neurasthemia. In fine, in the neurosis, I believe that there are physiological troubles depending upon the nervous system, to which the treatment should be addressed.

M. Foveau de Courmelles employs the thyroid treatment in exophthalmic goitre and obesity; he recommends bleeding from the thyroid body and currents of great frequency. M. Delray, of Charleroi, has obtained considerable amelioration by preparations of the ioduret of iron and galvanic applications. In other cases in three months the symptoms were improved by galvanization of the neck. They were due to uterine pains, which is a confirmation of the opinion of M. Regnier.

Therapeutic Value of Currents of High Frequency.—M. Bergonie, of Bordeaux: The solution of the above question is, as yet, premature, for the currents of high frequency and of great tension have only very recently entered into the therapeutic domain. Again, a response to a similar question, limited and complete, is always very difficult, whatever may be the remedy or the medication proposed. As respects currents of high frequency, it may be said that their physiological effects are now clearly demonstrated, and their therapeutic value is undoubted, but there remains to be determined more fully by long and more general practical experience their indications and their contra-indications. It is to Prof. d'Arsonval, of the Institute of Frence, that we are indebted, not only for all that we know of the currents of high frequency, but also of their introduction into electro-therapy. He has created their technique, determined their physiological effects, indicated, in fine, their essential therapeutic properties, which have been confirmed by others, of the physiological effects of currents of high frequency. It is upon these effects that their therapeutic employment is based. The first and most peculiar is their total absence of action upon the sensibility; the motor nerves are not more affected than the muscles, and the passage of these currents, though of formidable intensity, provoke neither sensation nor motion. But the most remarkable action of the high frequency is the extraordinary activity which it impresses upon the nutritive changes. D'Arsonval has demonstrated this action, which is so full of promise, by the measure of increase of CO^2 produced and O absorbed, by the evacuation of the greater heat produced under their influence, and finally by the more rapid diminution of weight of animals.

Therapeutic Value and Indications and Counter Indications of Currents of High Frequency.—The therapeutic value is naturally deduced from their physiological effects. This value is considerable, for before their introduction into therapeutics we did not possess so simple an agent, and of such perfect harmlessness, for increasing slightly and regulating the increase of the nutritive changes of cell life. Their application is then clearly indicated in the large class of diseases established by Prof. Bouchard and which he has named "diseases caused by impairment of nutrition." It may indeed be said that the currents of high frequency are their specific medication.

Results Obtained.—The first observations were published by d'Arsonval and Charrin. Since then numerous others, and at different times, by Apostoli and Berlioz. The conclusions of these authors are in full accord, and they have found an increase of combustion, revealed especially by analyses of the urine. From a clinical point of view they have established, among other phenomena, a certain and progressive amelioration of the general condition. Again, d'Arsonval and Charrin, by experimenting upon microbic cultures and their products, have proved that currents of high frequency attenuate bacterial toxines, and that these toxines, thus attenuated, can be used for inoculation. The great importance of this fact is manifest. Finally the percutaneous applications of these currents have given, in the hands of Dr. Oudin, and of those who have employed them, very brilliant effects in diseases of the skin, thus manifesting the superior therapeutic value of currents of high frequency. M. Foreu de Courmelles: The currents of high frequency of Prof. d'Arsonval possess powerful effects of auto-conduction, of organic self-induction showing itself by the unconscious combustion of adipose tissue, by the regulation of animal heat, by a more perfect equilibrium of the nervous system, and the recuperation of the vital forces. The temperature is elevated during the application, and if the ordinary temperature is below the normal, this is very quickly re-established, and so remains. The menses are also regulated in quantity and kind.

Obesity, from whatever cause, yields rapidly and by degrees, without the experience of any trouble by the patient. Opotherapy—thyroid medication—which is not always well borne when it is the only treatment, becomes, when combined with high frequency, a most valuable adjuvant of it and is never debilitating. The facility of application of the currents, which the patient can take without any preparation, makes it also a medication of choice. M. Gilles of Marseilles: These currents of high frequency probably act through the central nervous system rather than by terminal nerves. M. Regnier, of Paris, does not believe that currents of high frequency give any better results than faradization or galvanization.

Criminal Suggestions.—M. Liégeois, of Nancy, in answer to criticisms formulated against the doctrine of the school of Nancy, upon the question of criminal suggestions by M. Delboeuf, of Liege, and M. Brouardel, reports and analyzes a certain number of judicial facts and scientific observations tending to prove that crimes by suggestion really exist and constitute a veritable public danger. M. Liegeois lays down the principle that in all persons susceptible of being put in a condition of profound somnambulism, there can be produced by verbal suggestion a real automatism. In this state, and without his knowledge, the patient can be rendered entirely unconscious of immoral or criminal acts, even murder or poisoning. Again, while in a condition of somnambulism, whether spontaneous or produced, women and young girls may be violated without their knowledge, without sensation, or the preservation of any recollection whatever. Besides these crimes, whose consequences would sometimes be terrible, they may by suggestion be inspired with the most degrading sentiments, the lowest desires and the most shameless actions. There would be then, according to M. Liegeois, a peril menacing 4 or 5 per cent. of the

population, or more than one hundred thousand persons in Paris. The following is his conclusion:

It would be prudent for every person to know exactly of what degree of suggestibility he or she may be susceptible. To do this, it is necessary to allow himself or herself to be put into a state of somnambulism by a competent operator. If it should result in profound somnambulism it is absolutely indispensable that no hypnotization should be permitted by any person or any method. This he calls the attenuated suggestion, a sort of moral vaccination. M. Crocq: No individual commits a crime except by virtue of a disposition interested in its commission. The study of the conscience of each one reveals in many low instincts and disposition to crime that suggestion may reveal. In certain cases criminals can be created; the latent dispositions are given by education most frequently. It is necessary to guard against the evils that may result from similar experiences of criminal suggestions. Public representations of hypnotism given by charlatans constitute a danger, inasmuch as they awaken in certain spectators an evil disposition to crime. M. Liegeois: I recognize the evils, but they are produced only when the experiments are badly conducted. Great caution should be observed against the real dangers which result from like suggestions and made by men not honest nor competent.

M. Van Reutherghem: By therapeutic suggestion I treated a professional confrére of fifty-six years, a hystero-neurasthenic, and obtained profound sleep with amnesia. The patient was promised an important post. During sleep I told him he should decline it, because his health demanded it. On awaking, and although ambitious, he wrote his declination at my dictation. His anæmia disappeared, but on reading what he had done he had an attack of hysteria, but no serious result followed. M. Foveau de Courmelles: A difference should be established between criminal suggestion and therapeutic suggestion. I would cite the history of the magnetizer, Donato, and I do not believe in the truth of criminal suggestions to individuals who have been put to sleep. M. Liegeois: Numerous facts have not been established. Automatism occurs in a small number of subjects only, not in all I have simply wished to show that M. Delbœuf did not observe all the precautions, and did not put his subjects into a state of profound somnambulism or monoideism. I hold that an examination of the accused, who is known to be somnambulistic, should be made while in a state of somnambulism. In this way the culprit who has made the criminal suggestion may be discovered and revealed by the memory of the accused during the somnambulistic condition.

M. Castelain: I admit the argument of the honorable reporter, M. Liegeois, but I think that the conditions of experience have an influence, education being only a series of suggestions anterior to old age. As regards the "attenuated suggestion" does he not fear that in an individual who is recognized as suggestible this remedy would not often be efficacious? Society has the right to isolate those who are unbalanced, and ought to discriminate vigorously against the suggestible.

M. Liegeois: The school of Nancy does not believe that suggestion is applicable only to the degraded and the hysterical. It is also the opinion of Salpétriere, which occupies itself with physical signs and domestic phenomena, and neglects the important psychic manifestations. At Nancy we produce contractions and other physical symptoms, when we desire, by suggestions and psychic action.

Treatment of Certain Clinical Forms of Nephritis by Injections of Serum and Baths of Warm Air.—M. Carrieu, of Montpelier: In subacute toxic nephrites (at the beginning of scarlatina and other grave infectious diseases, or in cases of profound poisoning) intra-venous injections of serum, preceded by venesection or lavage of the blood, according to the method of Barré, are indicated. In acute primitive parenchymatous nephrites, intra-venous injections, preceded by general or local bleeding, are indicated as in preceding cases, associate with them subcutaneous injections of cafeine and of ether to sustain the heart and stimulate the nervous system.

It is in secondary parenchymatous nephrites, subacute or chronic, that the method of treatment by baths of warm air gives the most satisfactory results. These baths not only soothe the kidney by the sweating which eliminates toxic matters, but they act upon the general condition by promoting the activity of cellular changes by the vasculo-nervous excitation of the skin. Chronic interstitial nephrites are not usually relieved by the methods above indicated, but it is not a rare circumstance to observe subacute attacks of parenchymatous nephritis in the course of their evolution. Subcutaneous or intra-venous injections of serum are then indicated, and may cause the alarming symptoms to disappear, without, however, arresting the progressive progress of the disease.

The Pathogenesis of Fever.—M. Ughetti: I believe that no soluble chemical body is capable of producing fever. If a body, which when introduced under the skin determinos an elevation of temperature be injected into the blood, it produces rathèr a hypothermia. What causes fever is the existence of granular bodies in the blood, and the proof is that in certain microbic maladies there is no febrile increase unless the bacteriæ invade the circulatory system. By injecting into the blood the powder of lycopodium or of carmine in suspension fever is produced.

The Lumbo-iliac Incision in Treatment of Suppurative Appendicitis.—M. Grinda, of Nice: It is indicated in all cases in which the local signs point to the presence of a retro-cœcal appendicular abscess, viz., intense pain at the summit of the triangle of I. L. Petit, slight pain at MacBurney's point, a particular sensation of fullness and resistance in the right flank, and sonorousness of the right iliac fossa. It enables the surgeon to discover the cœcum and appendix by the most direct and the surest way. There is less exposure than in the ordinary method to peritoneal infection, and it always avoids the difficult and dangerous dissection of the coils of the small intestine that are often interposed between the cœcum and the anterior abdominal wall. It assures, by its situation, perfect drainage from the wound, and finally prevents eventration.

OBITUARY.

Dr. George W. Blacknall, who recently died at Raleigh, N. C., at the age of sixty-eight years, was more widely known and loved than almost any other physician in this country. Dr. Blacknall served three years as assistant to Dr. Carnochan, with Dr. Emmet, at the Emigrants' Hospital, Blackwell's Island. The civil war wrecked his property, and he retired from the profession to take charge of the leading hotel in Raleigh. Of a bright, genial, loving nature, every one's friend and benefactor, holding high offices of trust, he was always loyal and trusted:

"None knew him but to love him,
None named him but to praise."

The recent death of Dr. George Allen, the accomplished superintendent of the Collin's Farm State Insane Hospital, came with a startling surprise to his numerous friends in this and other States, but few of whom had heard of his illness. Dr. Allen was born at Castleton, Vt., forty-four years ago. He received the degree of B. A. from the Rochester University, and of M. D. from the Hahnemann Medical College. He served as interne in the Ward's Island Hospital, practiced his profession for twelve years in Waterville, and for seven years held the position of first assistant in the State Insane Asylum, Middletown, N. Y. When, about a year ago, he was called to a new and more responsible field of labor, his appointment was received with congratulations from the profession in every part of the State. A close student, a clear intellect, thoroughly conscientious and painstaking, with an eminent practical and suggestive mind, Dr. Allen was rapidly taking rank among the leading alienists of this country. A wife and one daughter are left to mourn the sudden termination of a life so dear to them and of such brilliant promise for the future.

J. A. C.

MISCELLANY.

—The English courts have decided that medicine is a trade.

—Dr. John Aulde has resumed his practice at 1543 Arch street, Philadelphia.

—Prof. H. C. Wood declares that "the bicycle is the great calisthenic of the world."

—The *Med. Summary* says that camphor is an efficient antidote to strychnine poisoning.

—*La Sémaine Médical* (July 22) states that seasickness has been prevented by suggestion.

—A solution of morphine (*Phil. Polyclinic*) in collodion painted over the affected region will relieve the pain of herpes zoster.

—New York is to have additional fresh-air breathing-places in a number of small parks below Fifty-ninth street. The cost is estimated at $3,500,000.

—Gov. Adams, of Colorado, has signed the bill prohibiting the sale of cocaine without a written prescription of a licensed physician or dentist.

—The application of the Hahnemann Hospital College of San Francisco, for affiliation with the University of California, has been denied by the regents.

—The sights of Chinatown, San Francisco, were too much for Dr. W. C. Watts, of Australia, who is on a visit to this country. He was drugged by his guides, and is now in a serious condition.

—A hot battle has been waged in San Francisco, Cal., over an attempt (which was defeated) to affiliate the Hahnemann Medical College with the medical department of the State University.

—Asparagus causes asthma, according to Dr. Deschamps, of Paris, and must be added to the list that contains roses, musk, tea, ipecacuanha, cats, fried fish, oats, malt and rice dust, feathers and wool.

—Oleum Sesami, U. S. P. (*Penn. Med. Jour.*), is a fixed oil well adapted, owing to its non-liability to become rancid, for inunctions of the skin in wasting disease or other conditions where an oil is indicated.

—The Supreme Court of Illinois has decided that a physician can be compelled to give expert testimony for ordinary witness fees. It is one thing to drive a horse to water, but quite another to make him drink.

—Tubercular glands are characterized by their relatively small enlargement, rapid cheesy degeneration and breaking down into pus, with the formation of sinuses, and, above all, by the presence of specific bacilli.

—Jewett believes (*Med. Age*) a firm binder is frequently of material service in the second stage of slow labor, especially in relaxed condition of the abdominal wall, by furnishing a *point d'appui* for the intra-abdominal pressure.

—The oil of sassafras will destroy all varieties of pediculi and their ova with a single application (*Med. Brief*). Care must be taken to prevent its coming in contact with mucous membranes. Any burning from this cause can be allayed in a few minutes by pouring on olive oil.

—A wise crusade (*Am. M. S. Bull.*) against the incessant and often avoidable noises of the city streets has lately been started by the daily press. It is to be hoped that this will be kept up until some permanent relief is obtained, and until some of the offensive noise-makers have learned that they are tresspassing on the rights of their fellows.

—According to Dr. Constantine, of the Buffalo Health Department, it is a common practice for Italian fruit venders to hasten the ripening of bananas, oranges and lemons by placing them in their filthy tenement-house beds, where the fruit receives the animal heat from their bodies. Fruit subjected to this process will ripen in an incredibly short time.

—In a patient with tabes (says *Health*) it is often possible to flex the leg at the hip without bending the knee, until the toe almost touches the ear, without producing the sense of painful tension in the popliteal space so speedily felt by one in health. This is not only an interesting feature of advanced cases, but is a valuable early diagnostic sign.

—Advices from St. Petersburg (*Daily Lancet*) state that the fever, apparently an extreme form of influenza, which has been raging for many months in the district of Mery, is claiming fewer victims at the present time, but its virulence has increased rather than lessened. It leaves behind it the most serious maladies, such as affections of the heart with dropsy, paralysis and contraction of the limbs.

—The hysteria of men is now perfectly well recognized, and conforms in a general way to the type as observed in women. Nevertheless (*Boston Med. and Surg. Jour.*) we still hear it said in professional circles that hysteria is a disease peculiarly of women, and this in spite of the manifold hysteroid affections that are continually being brought to our notice as occurring in men; for example as the result of accidents.

—Peyron (*Centralblatt fur innere Medicin*, 1897, 42) (*Med. Annals*) claims that the administration of the bisulphite of sodium produces a rapid elimination of lead from the system. A daily dose of 5-6 grains in lead poisoning, where only traces of lead were found in the urine, induces the excretion of as much as 72 mg. in a day. This remedy acts very rapidly, as the maximum excretion of lead occurred two to three hours after its ingestion.

—Dr. G. Daniel, of Brussels, in a lecture in the Brussels University criminology course, concludes, after a careful analysis of the question (*Journal de Med. de Paris*, June 13, 1897), that syphilis is rarely due to official licensed prostitution, but is almost always owing to clandestine. Prostitution may be affected by moralizing agencies, but not by repression. If clandestine prostitution could be replaced by licensed, great diminution in prostitution would inevitably result.

—On the basis that *attacks of acute gastro-intestinal indigestion in infants* are caused by fermentation of undigested food (*Phila. Polyclinic*), generally milk, those connected with the obstetric clinic have found that mercurous chlorid (calomel), in doses of $\frac{1}{20}$ to $\frac{1}{10}$ of a grain, given every hour until a grain is taken, has given most excellent results. All milk diet should be stopped for at least twelve hours, after which beef juice or peptone preparations may be given until the irritation has subsided.

—From what I can learn (*Med. Times and Hosp. Gaz.*) London consultants, especially the juniors, are beginning to feel the pinch of the shoe, and I am told some of them are considering the question of reducing the minimum consultation fee from one guinea to half a guinea. It is suggested that the reduced fee should be accepted only when the patient brings a letter from a general practitioner stating that the applicant is not in a position to pay ordinary fees; but this rule, if adopted, would soon be brushed aside, and we should soon find consultants visiting and prescribing for the same fees as are accepted by general practitioners from their best patients. What between free hospitals and half-price consultants the unfortunate "G. P." is doomed to speedy extinction.

—A correspondent of the *Times* (*Med. Times and Hosp. Gaz.*), writing on the recent conference on the abuse of hospitals, says his experience leads him to believe that hospitals are sought by the poor quite as much for the good nursing to be obtained there as for medical treatment, and he suggests that if organizations for nursing the poor in their own homes were more generally and liberally supported, there would be far less pressure on the hospitals. He writes: "The conference deals also with those who, though in easier circumstances, are, nevertheless, now generally applying for admission to hospitals, and here, too, it is quite as frequently the nursing that is the great attraction of the hospital; and if the charges of competent nurses were somewhat lower than they are, another large class would be more than content to secure the privacy and comfort of home in illness." The writer is certainly justified in these remarks. There is no doubt that the high charges exacted for skilled nurses forces many persons to resort to hospitals who would otherwise be glad to be treated by their own family doctor.

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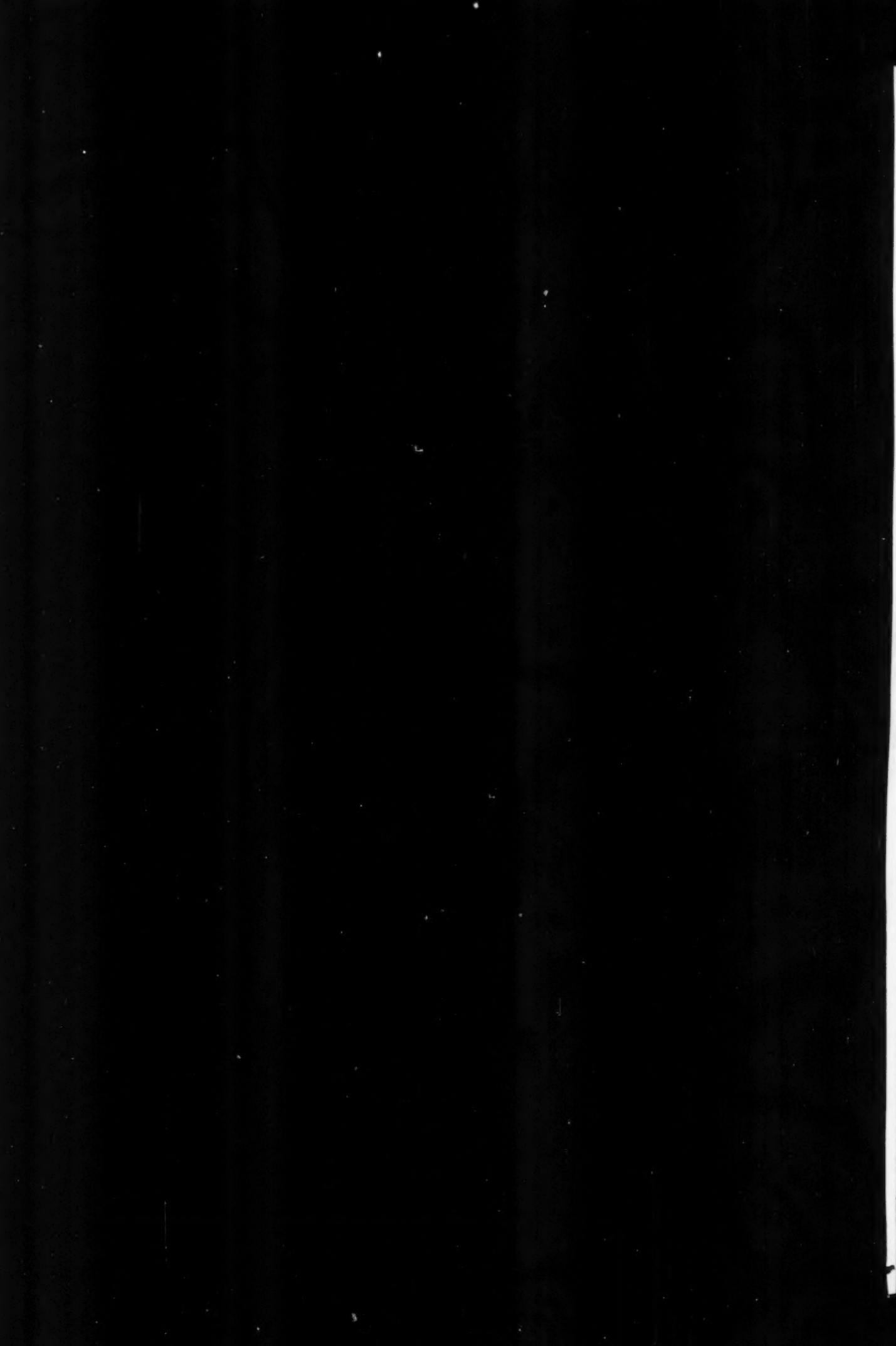

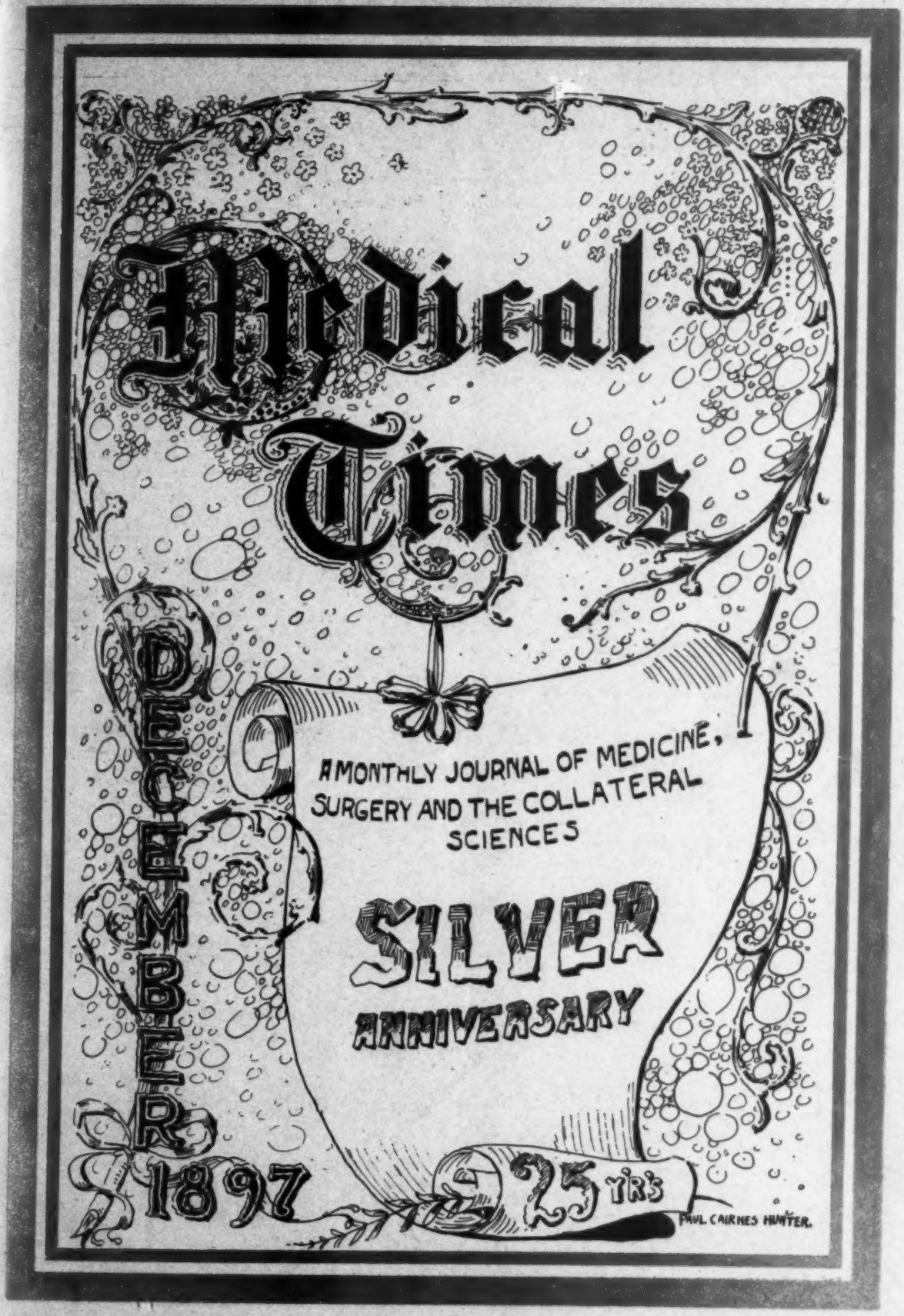
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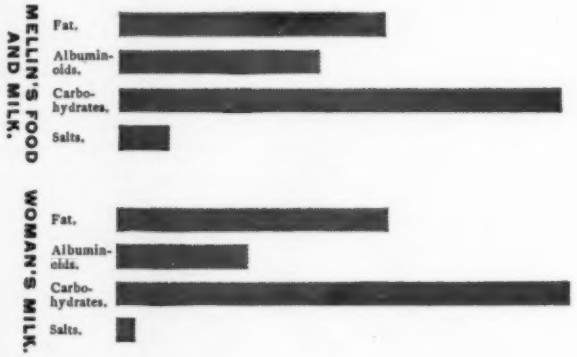

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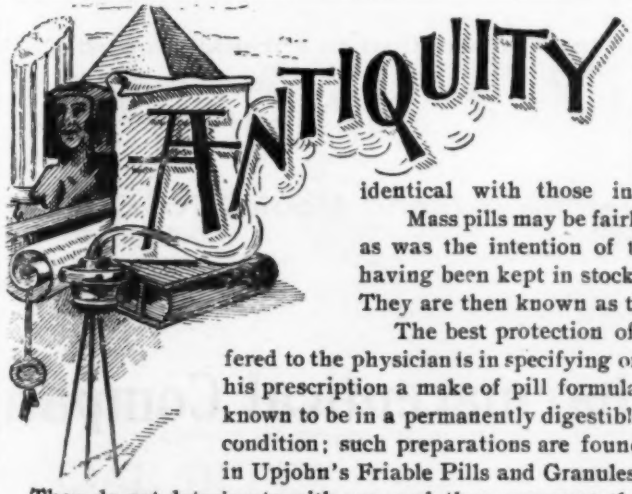

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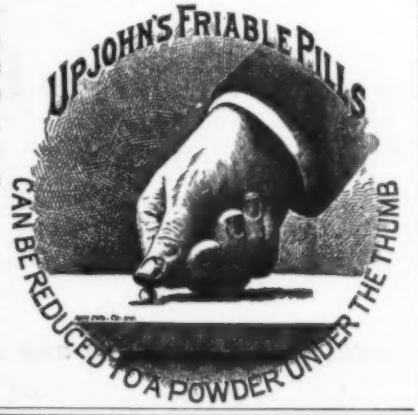

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DISEASES OF WOMEN In the treatment of diseases of women in general, as **Endometritis, Vaginitis** and **Menstrual Disorders, Amenorrhœa, Dysmenorrhœa,** etc., and the disturbances attending the Menopause, Micajah's Medicated Uterine Wafers are of inestimable value.

Endorsed by many leading men of the Medical Profession.

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In chronic inflammation and catarrh of the cervix and vagina I have found MICAJAH'S MEDICATED UTERINE WAFERS simply invaluable.

New England Med. Monthly, Sept., 1894.

OTTO JUETTNER, A.M., S.M., M.D.,
Cincinnati, Ohio.

I cannot summarize and emphasize my opinion of the value of MICAJAH WAFERS better than by saying that they are the *ne plus ultra* of the art of treating the diseases peculiar to woman, neatly, successfully, and without shocking that sense of feminine delicacy which makes to every man the presence of a womanly woman a shrine of worship.—*St. Louis Clinic, Sept., 1893.*

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In the treatment for Retained Placenta I introduced a MICAJAH MEDICATED UTERINE WAFER as far as possible within and beyond the external os. About one hour after, powerful uterine contractions supervened, and in thirty minutes more the uterus completely emptied itself. The patient made a rapid and complete recovery. I have found these wafers a most valuable remedy.

Phila. Med. Sum'y, Sept., 1893.

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HYDROZONE (30 Volumes Preserved Aqueous Solution of H_2O_2)

IS THE MOST POWERFUL ANTISEPTIC AND PUS DESTROYER.
HARMLESS STIMULANT TO HEALTHY GRANULATIONS.

GLYCOZONE (C. P. Glycerine Combined with Ozone)

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THE MOST POWERFUL HEALING AGENT KNOWN.

These Remedies Cure all Diseases caused by Germs.

Successfully used in the treatment of Chronic and Acute Ulcers (Specific or not),
SKIN DISEASES, ECZEMA, PSORIASIS, SALT RHEUM, ITCH, BARBER'S ITCH, POISONING IVY, ACNE, Etc.

Hydrozone, applied to any open diseased surface, destroys the pus, leaving the tissues beneath in a healthy condition. Then **Glycozone,** being applied to the clean surface, stimulates healthy granulations and heals the sore. **Inflammatory and Purulent Diseases of the Ear. Otitis Media, Etc.**

By means of a glass syringe, inject **Hydrozone**, either full strength or diluted, and complete the dressing with a small roll of cotton well impregnated with **Glycozone**.

Send for free 240-page book "Treatment of Diseases caused by Germs," containing reprints of 120 scientific articles by leading contributors to medical literature.

Physicians remitting 50 cents will receive one complimentary sample of each, "Hydrozone" and "Glycozone" by express, charges prepaid.

Hydrozone is put up only in extra small, small, medium and large size bottles bearing a red label, white letters, gold and blue border with my signature.

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IRRITABILITY OF THE STOMACH?

Have you under your charge any Infants and Invalids who are brought to the brink of starvation because unable to retain nourishment? If so

ESKAY'S Albumenized FOOD

will solve the difficulty. Try it in your next case, and become convinced of the correctness of this claim. We select the following from a large number of letters sent us by physicians.

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"On the 18th ult. I was called to see Earl C., age seven months, and found him suffering from gastro-entero-colitis. He could not retain any of the artificial foods that had been previously prescribed by the physician in attendance. I placed him on modified milk as recommended by Prof. T. M. Rotch of Harvard. This he retained fairly well, but would not take more than one or two ounces at a feeding, or from fourteen to sixteen ounces in the twenty-four hours. There was no gain in weight. September 3rd I ordered **Eskay's Albumenized Food** which he took with great voracity. He took six feedings a day of six ounces, and did not vomit a particle of the Food. His stools were natural in color and number, and in five days he gained three pounds. The **Food** has worked a great change for the better."

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"Your **Eskay's Albumenized Food** has proven most efficient with patients suffering from extreme irritability of the stomach. In many cases, when all other forms of nourishment were rejected, **Eskay's Food** was retained.

Eskay's Food contains cereals combined with egg-albumen in such a way as to furnish a perfectly nourishing Food, readily retained and assimilated.

Free samples and full clinical reports sent on application to the manufacturers,

SMITH, KLINE & FRENCH CO., Philadelphia.

SELECTIONS.

Phenalgin.—Dr. A. G. Cross, of Waynesburg, Pa., writes: "I would be ungrateful and unphilanthropic if I did not bear testimony to the great merit of PHENALGIN, first, because of the relief I myself received from it as a hypnotic; second, because it would be on my part withholding from others information that might smooth their bed and soften their pillow, as it has mine. After trying PHENALGIN thoroughly in my own case I unhesitatingly pronounce it the best and most prompt and pleasant remedy for insomnia that I have ever used."

Dr. William L. Fleming, of New York City, writes: "I have been using PHENALGIN for twelve months past in cases of gastralgia, neuralgia, headaches, etc., and am exceedingly gratified with its prompt control of pain under varying circumstances."

"PHENALGIN ranks among the few remedies of its class that may be *administered at all times with a feeling of safety.*"

Dr. James S. Kennedy recommends CAROID for the digestion of onions. Let those who cannot eat this vegetable try CAROID.

We continue to receive numerous endorsements of "SANMETTO" in urinary affections. Cystitis, prostatic troubles and enuresis nocturna are said to be speedily cured by this remedy.

Neurosine contains no morpine, chloral or opium, although it is the most powerful neurotic attainable. The standard remedy for the treatment of all forms of nervous disturbances. Anodyne and hypnotic. The most efficient and trustworthy agent for the relief of hysteria, epilepsy, neurasthenia, mania, chorea, uterine congestion, neuralgia, migraine, delirium tremens, asthma, spermatorrhœa and all convulsive and reflex neuroses. The remedy par excellence in delirium and restlessness of fevers.

We are in receipt of a booklet published by Micajah & Co., Warren, Pa., entitled, "Hints on the Treatment of Diseases of Women." This book takes up the different diseases peculiar to women and discusses each in a concise and practical manner. Much valuable material is contained therein which will be found of great assistance to the doctor. Write for a copy.

I have in my family a case of squamous eczema of twenty years' standing, and I am pleased to say that I accomplished more with one sample box of RESINOL than I had in twenty years with all the treatment known to the medical profession.—A. Blondin, M. D., County Physician and Superintendent of Hospitals.

A prominent doctor writes: I have received the "Nursing World Clinical Records" and samples of your IMPERIAL GRANUM, although it was unnecessary to send the latter to acquaint me with its value, as we have *a living example in our only son* of the worth of Imperial Granum, and I have *prescribed it constantly for eleven years*, and always with the very best results.

Dr. Robert Burns, Plymouth, N. H., says: "I have tried ASEPTOLIN in the case of a man suffering with advanced glandular tuberculosis of the neck. It was a bad pus case. Up to the time of ASEPTOLIN the wound refused to heal over a portion of the surface. After using it a marvelous change for the better took place, and after ten days from the first injection of ASEPTOLIN I removed all dressings, the wound having healed."

W. C. Frederick, M. D., Lono, Ark., says: I have used S. H. KENNEDY'S EXTRACT OF PINUS CANADENSIS (DARK), one to three of water, in sore throat from cold, with splendid results, and have now under treatment a little boy, three years old, suffering from strumous diathesis, who had been afflicted over a year with otorrhea. Have been using as an injection two drachms of S. H. KENNEDY'S EXTRACT OF PINUS CANADENSIS to four drachms of water, three to five drops, two or three times a day, the ear previously cleansed with castile soap. The little fellow commenced to improve from the very start and is rapidly improving daily; the discharge has almost ceased. He has been on this treatment for about two weeks.

I have prescribed Unguentum RESINOL in cases of eczema capitis, eczema facialis and seborrhœa with the happiest results. Again in pruritus ani its prompt and effective action was quite pleasing to my patient and satisfactory to me. I can commend its use to physicians in such cases and am sure it will retain a permanent place among the best remedial agents of its class.—M. H. O'Daniel, M. D.

The Eliminative Treatment of Gout.—Cases of typical gout are frequently observed in this country as in Europe and perhaps, as has been suggested, the disease masquerades in other forms, of which lithæmia is a prominent example. Whatever be the form, however, in which the materies morbi manifests itself, the treatment essentially is to promote its elimination from the system. Alkalies, especially lithia, do this, but only to a limited extent, besides they sometimes disturb the digestion. Salicylates have the same disadvantages in a more marked degree, and moreover their anarthritic power is still doubted by many authorities. LYCETOL has none of these objectionable features. It is agreeable, readily taken, and does not irritate the stomach, even when its use is continued for long periods. That it increases uric acid elimination is shown by the abundant discharge of gravel in the urine following its administration. Coincidently with this the pains and inflammatory phenomena of the gouty state subside, and even tophaceous deposits about the joints vanish under its continued use. In lithæmia its employment in connection with dietetic and hygienic regulations will be found to afford permanent improvement by promoting the excretion of those poisonous substances which when accumulating in the system give rise to the many discomforts of persons subject to the uric acid diathesis.

Lactophenin Is Perfectly Safe.—In his exhaustive chapter on Tuberculosis, in "Wilson's American Text-Book of Applied Therapeutics," Prof. James T. Whittaker, of Cincinnati, compares the antipyretics at various stages of treatment, and always speaks most favorably of LACTOPHENIN. Thus in mentioning methods for lowering the temperature (p. 376) he says that salol is safer than acetanilid, antipyrin or phenacetin, "but as it liberates carbolic acid in the intestine it should not be given in any case of stasis of the kidney;" and then he adds, "LACTOPHENIN in the same dosage (5 to 7 grains) is efficacious and free from danger."

Mr. A. A. Marks, the great promoter of locomotion in the limbless, has recently furnished one of his wonderful artificial limbs to General, the Count Okuma, the Prime Minister of Japan.

Mr. Marks has made an improvement in his "new rubber foot," which makes nearly a perfect counterfeit of the natural member. There is but one opinion of the products of Mr. Marks' house.

Hydrozone for Disorders of the Genito-Urinary Tract.—Dr. John Aulde, of Philadelphia, (*Medical Times and Register* of Philadelphia, Pa, Dec. 5, 1896), states that about eight years ago he was forcibly impressed with the value of peroxide of hydrogen in a protracted case of gonorrhœa. The disease had persisted for three months despite the treatment of several attendants, there being a constant discharge, and in addition there was an orchitis present, the left testicle being about as large as a baseball. Treatment consisted of the local use of injections of equal parts of peroxide of hydrogen and moderately warm water, used at intervals of four hours, these injections being followed by a solution of arsenite of copper containing one milligram (one 65th grain) to the drachm, diluted with an equal quantity of hot water.

The author believes HYDROZONE to be the best remedy for cystitis occurring either in the male or female. The bladder should be washed out with the solution (one to eight) a small quantity being used at first in chronic cases, owing to the painful muscular contractions following the withdrawal of the solution. The amount can be gradually increased. (A double current hard rubber catheter should always be used for that purpose). In gonorrhœa, gleet and cystitis the local treatment is oftentimes aided by the internal administration of hourly doses of calcium sulphide one-tenth of a grain.

"WELL PREPARED!! NUTRITIOUS!! EASILY DIGESTED!!"

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THIS STANDARD PREPARED

FOOD

!! SEEMS TO HOLD FIRST PLACE IN THE ESTIMATION OF MEDICAL OBSERVERS !!

"The Feeding of Infants," in the New York Medical Record.

It is very highly recommended and endorsed by the best medical authorities in this country.—*North American Practitioner, Chicago, Ills.*

Especially valuable in fevers, and often the only food the stomach will tolerate in gastric and enteric diseases.—*Dominion Medical Monthly, Toronto, Canada.*

As a food for patients recovering from shock attending surgical operations it stands pre-eminent.—*The International Journal of Surgery, New York.*

It is acceptable to the palate and also to the most delicate stomach at all periods of life.—*Annual of the Universal Medical Sciences, Philadelphia, Penna.*

It is adapted to children as well as adults—in fact, we have used it successfully with children from birth.—*The Post Graduate Journal, New York.*

There is no better prepared food than IMPERIAL GRANUM.—*The Medical Mirror, St. Louis, Mo.*

It is peculiarly adapted to most of the diseases of infancy and childhood that have originated in the use of improper food.—*The St. Louis Medical Era.*

THAT standard dietetic preparation so extensively prescribed by physicians.—*The Health Magazine, Baltimore, Md.*

Stands to-day without a rival—for the invalid and convalescent.—*New England Medical Monthly.*

Strongly recommended by physicians.—*The American Midwife, St. Louis, Mo.*

Especially serviceable in fevers and in all forms of gastric and enteric disturbances.—*The Medical Herald, St. Joseph, Mo.*

IMPERIAL GRANUM—that sterling food for infants, invalids and the aged.—*The Medical Fortnightly, St. Louis, Mo.*

A rational, pure and successful food.—*Medical and Surgical Reporter, Toledo, Ohio.*

Pure, palatable, and of especial value in typhoid fever and enteric troubles generally.—*Homœopathic Recorder, Phila., Pa.*

It is palatable, easily assimilated, and has made for itself a host of friends.—*St. Louis Medical Review.*

In prescribing this preparation physicians realize that they are recommending a food that stands pre-eminent.—*New York State Medical Reporter, Rochester, N. Y.*

IMPERIAL GRANUM is a thoroughly reliable product.—*The Medical Century, Chicago, Ills.*

We have used it with the best possible results in several cases of summer diarrhoeas in children.—*The Western Medical Journal, Fort Scott, Kansas.*

It has steadily won its way, step by step until it now stands unchallenged at the head of all food preparations.—*The Medical Council, Philadelphia, Pa.*

Used extensively in typhoid fever and in other disorders where it is imperative to sustain the patient.—*The New Albany Medical Herald.*

It is one of those rare preparations that never disappoint—but is all that is claimed for it.—*Maryland Medical Journal, Baltimore, Md.*

It is easy of assimilation and most valuable for patients recovering from acute diseases.—*The Medical Progress, Louisville, Ky.*

It enjoys so widespread an endorsement from the medical profession that its reputation is beyond dispute.—*American Medico-Surgical Bulletin, New York.*

CONTAINS NO TRACE OF ANY IMPURITY.—*The Lancet, London, England.*

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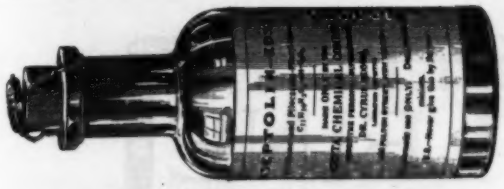

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For the treatment and cure of **Phthisis Pulmonalis, Cancer, Septicæmia, Malaria** and **La Grippe.** In the three latter diseases Aseptolin is a specific, and in the others gives great relief and, in a majority of cases, permanently cures.

As there are several imperfectly compounded preparations in the market, alleged to be prepared in accordance with Dr. Edson's formula, great care should be taken to get only the genuine, made under the personal supervision of Dr. Cyrus Edson by the

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"The Aseptolin has been faithfully tried in a well-marked case of incipient tuberculosis of the lungs, complicated with asthma. There has been decided improvement in the case since the use of 'Aseptolin,' and there has been no recurrence of the asthma. The patient sleeps and eats well, gaining in flesh and strength daily."

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"A young lady of eighteen, among my patients, developed a case of consumption, and lost flesh. I put her on the Aseptolin treatment. There is a remarkable change for the better, one I can really call marvelous."

Effervescing Laxative Geyser Crystals

"A PERFECT LAXATIVE BUILT ON SCIENTIFIC LINES."

FORMULA:
Sodium Phosphate, C. P., Sodium Sulphate, C. P., Sod. et Pot. **Bitart**, and Kola Nut, treated with an Alkali and neutralized, combined with Effervescing Fruit Salts.

CHARACTERISTICS:

Simplicity of Formula.
Scientific Interest.
Retention of Individual—crystal effect.
More used—less required.
Permanent crystallization.
Creation Carbonic-acid Gas.
Safe, rapid, effective.

Added to water, produces sparkling and refreshing laxative, beneficial in general constipation, particularly in the Uric-acid Diathesis.

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A Perfected Apparatus for the Treatment of the Diseases of the Respiratory Organs by the Inhalation of Antiseptic Remedies in Dry or Moist Heated Air, or in Combination with Oxygen Gas.

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THE ONLY instruments in which a DIFFERENTIAL range of temperature is obtained, and the PERFECT volatilizations of the most and least volatile medicaments occur simultaneously, and by the use of which perfect **pulmonary tolerance** is assured. The use of these instruments is especially indicated in the treatment of

TUBERCULOSIS, BRONCHITIS, PNEUMONIA, CATARRH, ASTHMA, LA GRIPPE,
AND THE DISEASES OF THE LARYNX, PHARYNX, AND NASAL PASSAGES.

The Loomis Sanitarium for Consumptives,

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Chemically Pure for Medicinal Purposes.
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HYDROLEINE

(HYDRATED OIL)

Is a purely scientific preparation of Cod Liver Oil for the treatment of Incipient Consumption, Scrofula, Rickets, Bronchitis, Whooping Cough, and all wasting diseases.

Formula—Each Dose Contains: *Pure Norwegian Cod Liver Oil, 80 m. (drops), Distilled Water, 35 m. (drops), Soluble Pancreatin, 5 grains, Soda, ⅛ grain, Salicylic Acid, ¼ grain.*

DOSE.—Two teaspoonfuls alone or mixed with twice quantity of water, to be taken after each meal.

HYDROLEINE is a pancreatized Cod Liver Oil preparation of pure Norwegian Cod Liver Oil (from Lofoten), that is prepared as the direct result of a long series of physiological experiments, conducted by H. C. Bartlett, Ph. D., F. C. S., and G. Overend Drewry, M. D., M. C. R. S., and encouraged with many practical suggestions by Bence Jones and Baron Liebig.

HYDROLEINE is based on sound scientific principles; it is easily digested and assimilated, without producing eructations. Appetite is increased, and that, so far from possessing the unpleasant taste of Cod Liver Oil and its emulsions, HYDROLEINE is palatable as milk, and pleasant. The formula is well known and the preparation has received the endorsement of physicians throughout the United States. It is sought to introduce HYDROLEINE exclusively on its merits, and for that reason the profession is appealed to only through the columns of medical journals.

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"In a number of cases of surgical tuberculosis, I have seen much improvement follow the use of bromide of gold and arsenic (arsenauro) This remedy brought about steady improvement when other remedies failed."

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"By abundant experience I am settled in my conviction as to its (ARSENAURO'S) value, and more particularly so, when the iodides are not tolerated."

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"In the later manifestations of syphilis, mercauro has proved itself almost a specific, so much so that its administration was always attended by marked improvement."

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"As a tonic alterative and anti-syphilitic remedy, MERCAURO certainly approaches nearer than anything I have yet tried to the specific we all desire to find."

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CARNOGEN

Has established its position as the only preparation in which Red Marrow abounds in an absolutely vital and unaltered condition. It is pronounced the most fruitful producer of red corpuscles; the best restorative and most active tissue builder.

We will gladly send you a copy of reports on its results in nine of the many hospitals where it is constantly used.

CARNOGEN has been analyzed and found all that it is claimed to be.

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so it shall be palatable requires great pharmaceutical skill. But to have it "odorless and tasteless" at the full expense of its therapeutical power is another question.

Scott's Emulsion

"The Standard of the World"

is as odorless and tasteless as any preparation of cod-liver oil can be, *when the whole oil is used.* Of course it is easy to make an odorless and tasteless cod-liver oil, if you throw away all the oil, or fat, and mix a little of the iodine, bromine, etc., with aromatics and alcohol.

But what about the therapeutical power? Just keep in mind: these fancy so-called preparations of cod-liver oil do not contain a single drop of the oil.

SCOTT'S EMULSION is precisely what it claims to be: the best Lofoten Cod-Liver Oil, thoroughly emulsified, Glycerine and the Hypophosphites.

Two sizes, 50c. and $1.00. In prescribing, please specify unbroken package. Small size put up especially for convenience in cases of children.

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TEN YEARS "IN WATER."

BY C. S. COLLINS, M.D.

MEMBER OF NEW HAMPSHIRE STATE BOARD OF HEALTH; MEMBER OF AMERICAN PUBLIC HEALTH ASSOCIATION; MEMBER OF BOSTON MEDICAL SOCIETY, ETC., ETC.

The writer has been teaching the gospel of self preservation for a decade.

Literally he has passed the whole of that history-making epoch "in water,"—not common, wet water that washes but cleanses not; not the distilled and therefore dead essence of filthy sewage-cursed rivers or ponds, nor even water from the mountain brook, laden with extracts of dead and dying vegetation, but "in a spring" of sparkling water, old as the eternal hills, pure as the waters of life.

How could one remain so long "in water" without suffering inconvenience, you inquire. Only the rare excellence of the water and the bull-dog pluck of the writer have enabled him to perform this feat amid the despair of hundreds "in water" who could no longer keep their heads above it.

What an age of history-making, that decade! What bright cheering memories come in to light it up! The shades of many a dusky warrior who pitched his wigwam near by, that he might drink health from its rocky depths—of Stark, Greeley, old patrons, by the way, and a host of other habitues of the unknown bourne come flitting past the writer as he pays his tribute, not to the bridge that has carried him safely, but to the water that has not overwhelmed him.

Ten years in water! Not as the reader begins to mistrust, actually in water, but only in the business, as one would say "in oil," "in wheat," or "in chips," as the gambler puts it. Enough in it, however, to learn some very practical lessons.

The first is, that American physicians have much to learn about so simple and yet so potent an ally as the American waters. Were the writer to enlarge upon this topic, it would monopolize this article, but its correctness would be demonstrated.

The second lesson is, that physicians spend too much time in everlastingly compounding. Every drug is of itself a compound, formed by a master hand for some useful purpose. Advanced therapy teaches that this single remedy has a special, well-defined field of action, and is only hampered in its work by the addition of other compounds. So in the use of water. Nature has made of it a single remedy composed of active curative agents, arranged no man knows how, for the use of man.

Any modification of the compound disturbs the action. In all the world no two waters are precisely alike chemically, and it is proper to say, therapeutically. This is why it has never been possible to imitate any natural water. The ultimate part of any analysis has never been up to the 100 per cent. Clinical experience demonstrates the fallacy of all the claims of imitators.

During ten years "in water," the writer has witnessed the rise and fall of many a tablet and concoction said to contain, for instance, lithia in "definite proportions," simply because lithia, *per se*, after being separated from its native elements in which it formed a natural compound, is of no special value as a medicine. It is only when we find it in its natural solution, blended in the "unexplored laboratory" with other bases, that it yields up its richest blessings to afflicted mortals.

This is not the time for scientific data, so the numerous authorities upon this subject will not be quoted. The thoughts uppermost in the mind of the writer relate to the incidents of the decade under review.

The tradition of the "medicine man," the history dating back to the days of General John Stark and Mollie, the wonderful work wrought by the water under the observation of the writer for fifteen years before the epoch which opened in 1887 with the test by learned chemists, the discovery of its remarkable contents, the exploiting of a little company by a half dozen physicians who knew its clinical value, the instant success, the reorganization on a large scale, the rapid strides in popular favor, the greatest and grandest work in the history of spring waters, all these and the blessings of untold thousands who have found renewed health, have marked the decade of the "man in water" and crowned his humble efforts to give to the world what nature gives to him.

His dream was of a little spring in the old town of Londonderry, about which he believed his fellow doctors would like to learn, but to-day the realization is a world-famous water used in every club and hotel, and in thousands of families, because the doctors have called it good for the high liver, in every hospital, because of its remarkable purity and, the peculiar power it possesses of driving out uric acid.

The writer named this spring Londonderry Lithia, combining the town with one of its principal constituents, and expects to carry to his grave no greater honor than to have been intimately associated with every detail of its most remarkable history; of having devoted his life to the scattering of the knowledge of so great a boon; of having literally spent his days in Londonderry water.

In closing this skit, he acknowledges his deep gratitude to the entire faculty, through whose kindness only could the good name of Londonderry have been upheld and carried to greater fields of usefulness, and apologizes for the skeleton which could be padded and covered indefinitely, but not to the taste of the busy doctor, who is looking for concentrated goods.

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Highest Therapeutical Value

Dioviburnia has stood the critical test of the most exacting physicians for years and has been pronounced of the highest therapeutical value. **Can always be relied upon** in all functional disorders of the Uterus and Appendages, whether Acute, Sub-Acute or Chronic.

DOSE: 1 teaspoon to tablespoonful in *hot water* 3 or more times a day. Prescribe original package (℥ VIII) to avoid substitution.

LITERATURE WITH FORMULA ON APPLICATION.

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SANMETTO FOR GENITO-URINARY DISEASES.

A Scientific Blending of True Santal and Saw Palmetto in a Pleasant Aromatic Vehicle.

A Vitalizing Tonic to the Reproductive System.

SPECIALLY VALUABLE IN
PROSTATIC TROUBLES OF OLD MEN—IRRITABLE BLADDER—
CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day. OD CHEM. CO., NEW YORK.

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Uniformly Effective, Agreeable and Lasting,—the Standard Preparation of Erythroxylon Coca

During past 30 years most popularly used Tonic-Stimulant in Hospitals, Public and Religious Institutions everywhere.

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"MALTINE" must be designated to get "MALTINE."

A Remedy in Nervous Disorders when Characterized by Melancholia.
—Mode of Exhibition.—

The "Reference Book of Practical Therapeutics," by Frank P. Foster, M. D., Editor of *The New York Medical Journal*, which has recently been issued by D. Appleton Co., of New York City, contains an article of which the following is an excerpt, which we feel expresses the consensus of medical opinion as adduced by actual results: "Antikamnia is an American preparation that has come into extensive use as an analgetic and antipyretic. It is a white, crystalline, odorless powder, having a slightly aromatic taste, soluble in hot water, almost insoluble in cold water, but more fully soluble in alcohol.

* * * * * *

"As an antipyretic it acts rather more slowly than antipyrine or acetanilide, but efficiently, and it has the advantage of being free, or almost free from any depressing effect on the heart. Some observers even think that it exerts a sustaining action on the circulation. As an analgetic it is characterized by promptness of action and freedom from the disagreeable effects of the narcotics. It has been much used, and with very favorable results in neuralgia, influenza and various nervous disorders characterized by melancholia. The dose of antikamnia is from three to ten grains, and it is most conveniently given in the form of tablets."

We may add, that the best vehicles, in our experience, for the exhibition of antikamnia are Simple Elixir, Adjuvant Elixir or Aromatic Elixir, as also brandy, wine or whiskey. It can also be readily given in cachets or capsules, but preferably tablets, as well as dry on the tongue in powder form, followed by a swallow of water. When dispensed in cachets or capsules it should be put into them dry. Antikamnia tablets should be crushed when very prompt effect is desired and patients should always be so instructed. The conditions of the stomach frequently present unfavorable solvent influences and they can be thus overcome.

—*Notes New Pharm. Products.*

In Pneumonia where there is Restlessness.

℞ Antikamnia (Genuine)..... ʒ ij
Tinct. Digitalis..... ʒ iss
Syrup Doveri..... ʒ iij
Mx. Sig.:—Teaspoonful every 3 to 6 hours.

In Painful Dysmenorrhœa.

℞ Antikamnia (Genuine)..... ʒ j
Brom. Potass..... ʒ ij
Elix. Aurantii..... ʒ ij
Mx. Sig.:—One or two teaspoonfuls every hour in water.—*Dunglison's Clinical Record.*

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COD LIVER OIL.

(Ol. Morrh. Comp. Wampole.)

Contains a solution of the combined alkaloidal and other active medicinal principles, obtainable from one-fourth its volume of pure Cod Liver Oil, the oily or fatty portion being entirely eliminated. These principles are extracted from the oil while it is yet contained in the fresh Cod Livers, and combined with Extract of Malt, Fluid Extract Wild Cherry Bark, and Syrup of Hypophosphites Compound, (containing Lime, Soda, Potassium, Iron, Manganese, Quinine and Strychnia).

Copy of Analysis.

Laboratory of ROBERT G. ECCLES, M. D., Brooklyn, N. Y., April 29th, 1896.

Messrs. HENRY K. WAMPOLE & Co., 441 Green St., Philadelphia, Pa.

GENTLEMEN: A careful chemical examination of fresh Cod Liver Oil as found in fresh Cod Livers which I obtained direct from the Cod Fish, reveals beyond question the presence of definite alkaloids and other active medicinal principles therein.

An equally careful examination of your Cod Liver Oil Extract, used in the manufacture of your preparation of Cod Liver Oil demonstrated beyond a peradventure the presence of *these same alkaloids* and the other medicinal substances extracted by me directly from the oil I found in the Cod Livers.

Finally another equally careful analysis of your finished product, "Wampole's Perfected and Tasteless Preparation of Cod Liver Oil," shows in an unquestionable manner the presence therein of *these same alkaloids and medicinal substances* from Cod Liver Oil, together with various hypophosphites, quinine, strychnine, wild cherry, etc.

An examination in detail of your process of manufacture and of the special machinery and apparatus used by you in extracting the combined alkaloidal and other active medicinal principles of Cod Liver Oil convinced me of their efficiency for just such work, and showed the care and pains taken by you to get a pure and useful product.

Very truly yours, ROBERT G. ECCLES

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Is retained when milk and water are rejected.
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BUFFALO LITHIA WATER

Disintegrates, Breaks Down and Eliminates Stone of the Kidneys or Bladder, Both Uric Acid and Phosphatic Formations.

Analysis and Report of Dr. A. GABRIEL POUCHET, Professor of Pharmacology and Materica Medica of the Faculty of Medicine of Paris. Director of the Laboratory of the Consulting Committee of Public Hygiene of France.

PARIS, February 12, 1897.

"The collections of **disintegrated** or **broken down vesical** or **renal calculi** which forms the subject of the following analysis and researches, were sent me by Doctor Edward Chambers Laird, resident physician **Buffalo Lithia Springs**, Virginia, U. S. A. **They were discharged by different patients after the use of the mineral water of Buffalo Lithia Spring No. 2 for a variable time.**

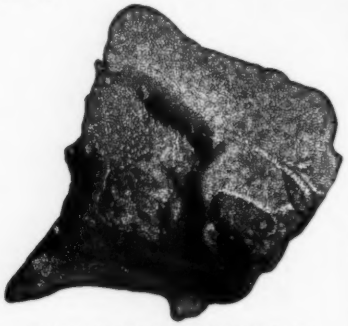
"I advise here from the experience of Dr. Laird the use of this mineral water, which has had with him a happy influence on the disintegration of the calculi and their elimination. It is to demonstrate this that he has requested me to make this analysis.

"The collections of the disintegrated calculi submitted to my examination were eight in number."

A fragment of each collection has been reproduced by photographs, which are designated by the same letters of the alphabet as the analysis here following:

pecimen of Calculi "A" magnified 13 diameters.

These disintegrated renal calculi are very numerous, and present themselves in the forms of grains of *various sizes from that of the size of a pin to that of a pea* of reddish yellow color, very hard and nucleus in the center. They are thus composed: Urate of ammonia—for the greater part; free uric acid—small quantity; carbonate of ammonia and magnesia—small quantity.



Calculus "B" magnified 20 diameters.

This disintegrated vesical calculus presents itself in the form of **many fragments** of a granular aspect of a greyish white color. *They are easily broken, and the contexture of the fragments show that they are porous throughout.* Chemical composition: Urate of ammonia—for the greater part; carbonate of ammonia and magnesia—in small quantity.

Calculus "C" magnified 30 diameters.

Vesical calculus reduced to crystalline powder, granular, of a greyish white color, rather friable. Chemical composition: Phosphate of ammonia and magnesia—for the greater part. Carbonate of lime—small quantity. Oxalate of lime—very small quantity.

Calculus "D" magnified 7 diameters.

Vesical calculus thoroughly disintegrated, fragments many and angular, granular aspect of a rather fragile consistence of a reyish white color. Chemical composition: Bicalcic phosphate—for the greater part (fusible directly to the blow pipe). Oxalate of lime—small quantity. Carbonate of ammonia and magnesia—small quantity. Xanthine—very small quantity.

Calculus "D" magnified 7 diameters.

Calculus "E" magnified 14 diameters

Disintegrated renal calculi, many polyhedral fragments, rounded at the angles, consistence hard, color yellowish red. These calculi are hard and appear formed of concentric layers. Cuemical composition: Uric acid—nearly the whole part. Uric pigment—(acide rosacique).

(SIGNED) A. GABRIEL POUCHET.

A portion of report omitted for lack of space.

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in URIC ACID DIATHESIS.

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HUNTER McGUIRE, M.D., LL.D., *President and Professor of Clinical Surgery, University College of Medicine, Richmond, Va.,* says: "**Buffalo Lithia Water,** Spring **No. 2,** as an alkaline diuretic, is invaluable. In **Uric Acid, Gravel,** and, indeed, in **diseases generally dependent upon a Uric Acid Diathesis, it is a remedy of extraordinary potency.** I have prescribed it in cases of **Rheumatic Gout,** which had resisted the ordinary remedies, with wonderfully good results. **I have used it also in my own case,** being a great sufferer from this malady, **and have derived more benefit from it than from any other remedy."**

Dr. WILLIAM A. HAMMOND (referring to Spring No. 1), says: "In my opinion the Water of **No. 1** Spring **Buffalo Lithia Water,** is equal to and superior to the Water from the noted **No. 2** Spring. **Thus, while quite as efficacious as a solvent for any excess of Uric Acid** existing in the blood, it **appears to have greater power in dissolving the deposits of urates that appear about the small joints in gouty and rheumatic persons, and in dissipating the tenderness of the bones and articulations which so generally is attendant on these conditions.** In such cases I have known it to act with surpassing thoroughness and rapidity. **It is also more efficient as a diuretic, as it acts as a tonic to the heart and a true physiological diuretic."**

Dr. ALLARD MEMMINGER, *Professor of Chemistry, Medical College, State of South Carolina:* "**I have used in my own case,** and prescribed for others, **Buffalo Lithia Water** for **Uric Acid trouble** with excellent results, and I regard it as the **safest, surest and most agreeable way of removing from the system this most pernicious derivative of Urea, Uric Acid,** the retention of which is followed by so many distressing symptoms, embracing **Gout, Calculi** of the **Kidney** and **Bladder. Herpetiform Neuralgic** affections, cases of **Mental Depression** and **Nervous Irritability** and **Nervous Asthma, caused by the irritating action of Uric Acid on the bronchial tubes."**

Dr. J. S. WELLFORD, *Professor of Diseases of Women and Children, Medical College of Virginia:* "I have paid a great deal of attention to Urinary Troubles, and have frequently and freely prescribed the **Buffalo Lithia Water** in their treatment, with the very best results. **In all the various forms of the Uric Acid Diathesis,** whether as well-formed Gravel, Gout, or the milder forms of Gouty Dyspepsia or Nettle-rash, in their varieties, **I know of no mineral water which I consider at all equal to it."**

Dr. WILLIAM B. TOWLES, *Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia,* says: "I feel no hesitancy whatever in saying that in **Gout, Rheumatic Gout, Rheumatism, Stone in the Bladder, and in all Diseases of Uric Acid Diathesis, I know of no remedy at all comparable to it."**

Dr. W. O. BASKERVILLE (referring to Spring No. 1), *Oxford, N. C., Member of North Carolina Medical Society,* says: "I belong to the Army of Physicians who regard the Water of **Buffalo Lithia Spring No. 1 a sovereign remedy in the Uric Acid Diathesis, Gout, Rheumatism,** and **allied affections, neutralizing** the *materies morbi* **in the blood and removing the deposits about the joints. It is a positive solvent of Uric Acid."**

Dr. JOHN T. METCALF, *of New York, Emeritus Professor of Clinical Medicine, College of Physicians and Surgeons, New York:* "I have for some years prescribed the **Buffalo Lithia Water for patients, and used it in my own case for** Gouty Trouble, **with decided beneficial results, and I regard it certainly as a very valuable remedy."**

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Fig. 2.—The New Style ***cannot pull apart,*** *and consequently lasts until worn out.*

FIG. 1. Circulars, with directions for measurement, sent on request. FIG. 2.

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Dr. H. Aronson, of Berlin, on the other hand, has conclusively shown that 66 to 70 pastils in a room capacity of 1,000 cubic feet, or seven times the quantity necessary to kill micro-organisms, will not injuriously affect the human respiratory organs.

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And the same overwhelming clinical demonstrations have also proved that the Vitality and Power of Bovine Blood can be and are *PRESERVED*, unimpaired, in a portable and durable preparation, sold by all druggists, and known as Bovinine. Microscopic examination of a film of Bovinine will show the LIVING BLOOD CORPUSCLES filling the field, in all their integrity, fullness, and energy; ready for direct transfusion into the system by any and every mode of access known to medical and surgical practice; alimentary, rectal, hypodermical, or topical.

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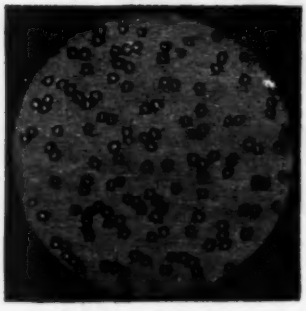

Micro-photographed by Prof. R. R. Andrews, M.D.

In short, it is now an established fact, that if Nature fails to *make* good blood, *we can introduce it*. Nothing of disease, so far, has seemed to stand before it.

Apart from private considerations, these facts are too momentous to mankind, and now too well established, to allow any further reserve or hesitation in asserting them to the fullest extent.

We have already duly waited, for three years; allowing professional experimentation to go on, far and near, through the disinterested enthusiasm which the subject had awakened in a number of able physicians and surgeons, and these daily reinforced by others, through correspondence, and by comparison and accumulation of their experiences in a single medical medium adopted for that provisional purpose.

It is now laid upon the conscience of every physician, surgeon, and medical instructor, to ascertain for himself whether these things are so; and if so, to develope, practise and propagate the great medical evangel, without reserve. They may use our Bovinine for their investigations, if they cannot do better, and we will cheerfully afford every assistance, through samples, together with a profusion of authentic clinical precedents, given in detail, for their instruction in the philosophy, methods and technique of the New Treatment of all kinds of disease by Bovine Blood, so far as now or hereafter developed.

☞Among the formidable diseases overcome by the Blood Treatment, in cases hitherto desperate of cure, may be mentioned: Advanced Consumption; Typhoid Fever; Pernicious Anæmia; Cholera Infantum, Inanition, etc.; Hæmorrhagic Collapse; Ulcers of many years standing, all kinds; Abscesses; Fistulas; Gangrene; Gonorrhœa, etc.; Blood poisoning; Crushed or Decayed Bones; Mangled Flesh, and great Burns, with Skin-propagation from 'points' of skin; etc., etc.

N. B. Bovinine is not intended to be, and cannot be made, an article of popular self-prescription. As it is not a stimulant, its extended employment in the past has been, and the universal employment to which it is destined will be, dependent altogether on the express authority of attending physicians. Address

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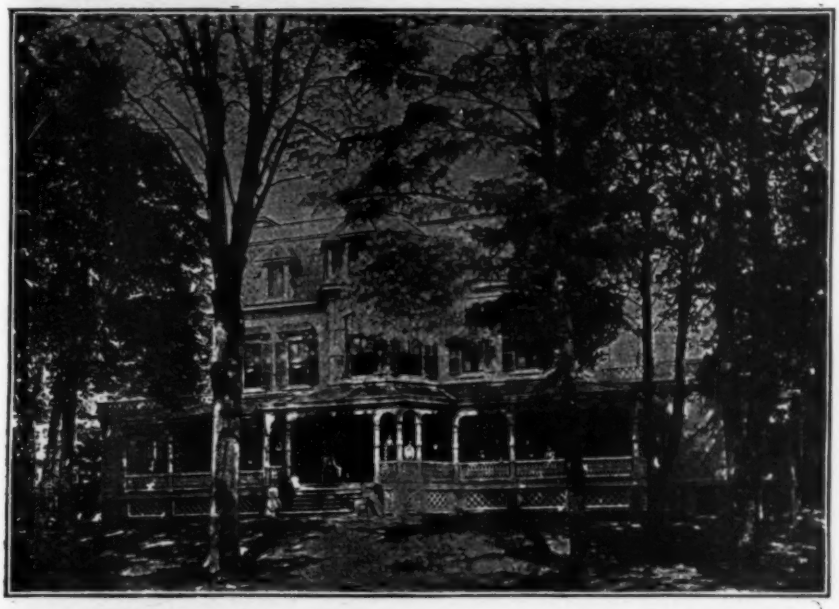

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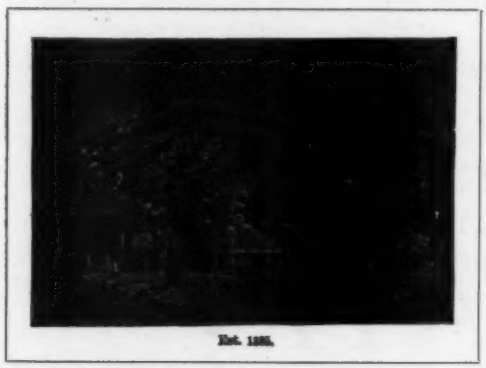

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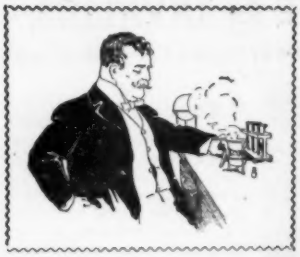

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